1730-SS

OPERATOR'S MANUAL

SURROUND STEREO TAPE RECORDER

AKAI®

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I. GENERAL INFORMATION

1- SPECIFICATIONS

Track System	4-track 4-channel/2-channel compatible stereo
Max. Reel Size	7″
Tape Speed	7-1/2 & 3-3/4 ips (±1%)
Wow/Flutter	0.12% RMS at 7-1/2 ips 0.15% RMS at 3-3/4 ips
Frequency Response	30 Hz to 22,000 Hz (±3 dB at 7-1/2 ips); 30 Hz to 15,000 Hz (±3 dB at 3-3/4 ips)
S/N Ratio	Better than 50 dB
Distortion	Less than 1.5% (7-1/2 ips) (1,000 Hz "0" VU recording)
Erase Ratio	Better than 70 dB
Equalization	Correct equalization for playback of tapes recorded to NAB curve
Recording Bias Frequency	100 kHz
Recording Level Indicator	2 twin type VU meters
Heads	Two 4-track 4-channel stereo heads for recording and playback. Two erase heads (2-track & full track)
Fast Forward & Rewind Time	75 seconds at 60 Hz (1,200 ft. tape); 90 seconds at 50 Hz (1,200 ft. tape)
Output Jacks	4 Line Output Jacks Output Level: 1.23 V Max. Load Impedance: more than 20 kΩ; 2 Headphone Jacks (1 ea. front/rear), 8Ω ; 2 Speaker Jacks, 8Ω
Input Jacks	4 Mic Input Jacks: 0.4 mV/30 kΩ 4 Line Input Jacks: 40 mV/100kΩ
DIN Jacks	2 Output/Input DIN Jacks: 0.4 V/5 mV
Recording Capacity	4-channel stereo (30 min. at 7-1/2 ips using a 1,200 ft. tape) 2-channel stereo (1 hr. at 7-1/2 ips using a 1,200 ft. tape)
Motor	Hysteresis synchronous 2-speed motor
Music Power	20 W (10 W each channel)
Undistorted Power	14 W (7 W each channel)
Semi-Conductors	19 Transistors 10 Diodes
Integrated Circuits	8 Linear IC, 2 Power IC
Speakers	Two 4″ built-in Speakers
Power Supply	AC 100 to 240V , 50/60 Hz
Power Consumption	75 W
Dimensions	420(W) × 450(H) × 240(D) mm (16-1/2″ × 18″ × 9-1/2″)
Weight	17 kg (37-1/2 lbs.)

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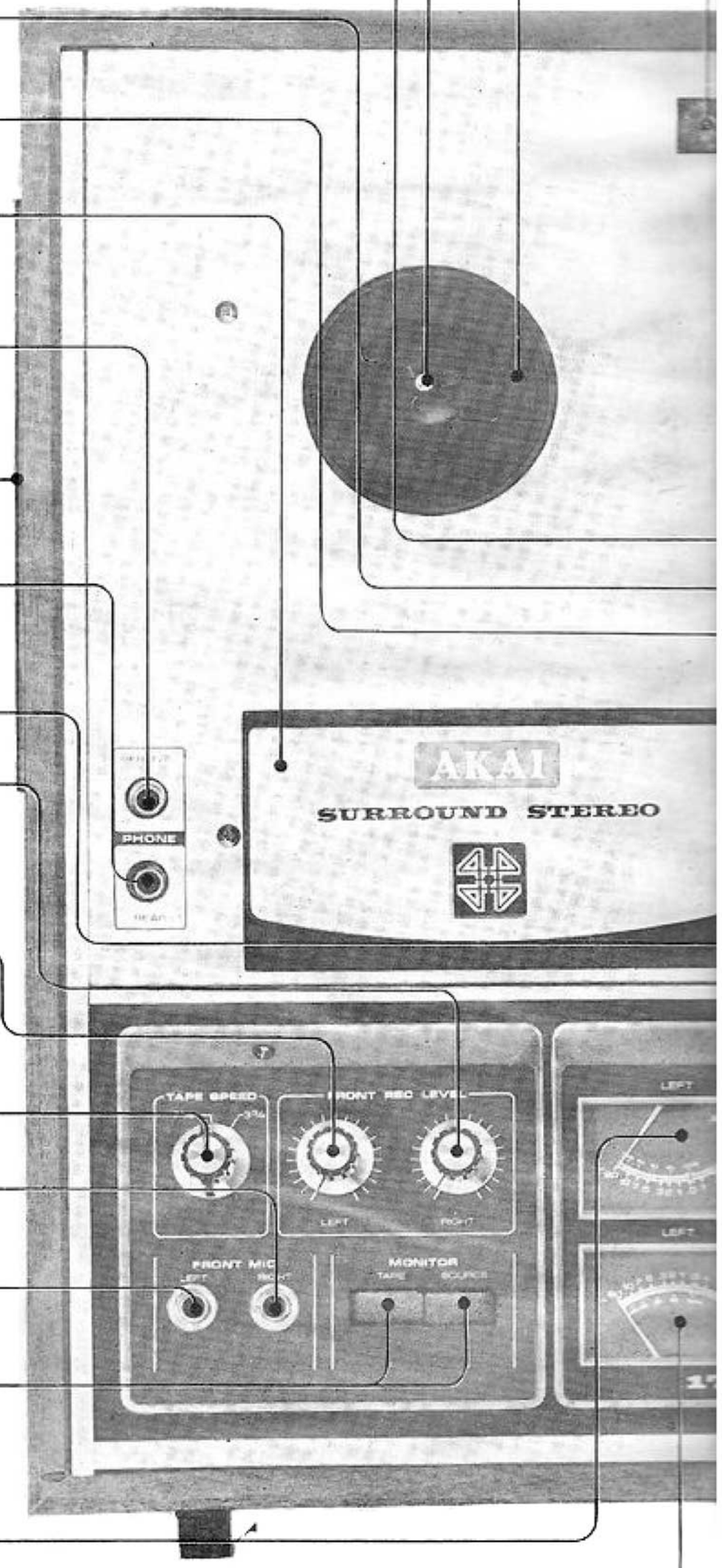
2. CONTROLS



RESET BUTTON

SUPPLY REEL TABLE

REEL RETAINER
Built-In Reel Retainer locks reel firmly into place.

CYCLE CONVERSION SWITCH (A)
"Out" position, 50 Hz ; "In" position, 60 Hz.

PINCH WHEEL
Presses against capstan to transport tape.

CAPSTAN
Transports tape.

HEAD COVER
Houses (from left to right) Full Track Erase, 2-Track Erase, Recording, and Playback Heads.

HEADPHONE JACK (Front Channel)
For use in monitoring front channel. Use Stereo Headphones of 8Ω impedance.

SPEAKER
Built-In 4" front channel speaker (for 2-channel operation)

HEADPHONE JACK (Rear Channel)
For use in monitoring rear channel. Use Stereo Headphones of 8Ω impedance.

RECORD SAFETY BUTTON

RECORDING LEVEL CONTROL (Right Front Channel)
For adjusting recording input level of right front channel. Adjust while observing right front VU Meter.

RECORDING LEVEL CONTROL (Left Front Channel)
For adjusting recording input level of left front channel. Adjust while observing left front VU Meter.

TAPE SPEED SELECTOR

MICROPHONE JACK (Right Front Channel)
For right front channel recording.

MICROPHONE JACK (Left Front Channel)
For left front channel recording.

MONITOR SWITCHES
To monitor program source, depress SOURCE Switch. To monitor recorded signals or for playback, depress TAPE Switch.

VU METER (Left Front Channel)
This meter indicates left rear channel recording and playback level.

VU METER (Left Rear Channel)
This meter indicates left front channel recording and playback level.

VU METER (Right Rear Channel)
This meter indicates right rear channel recording and playback level.

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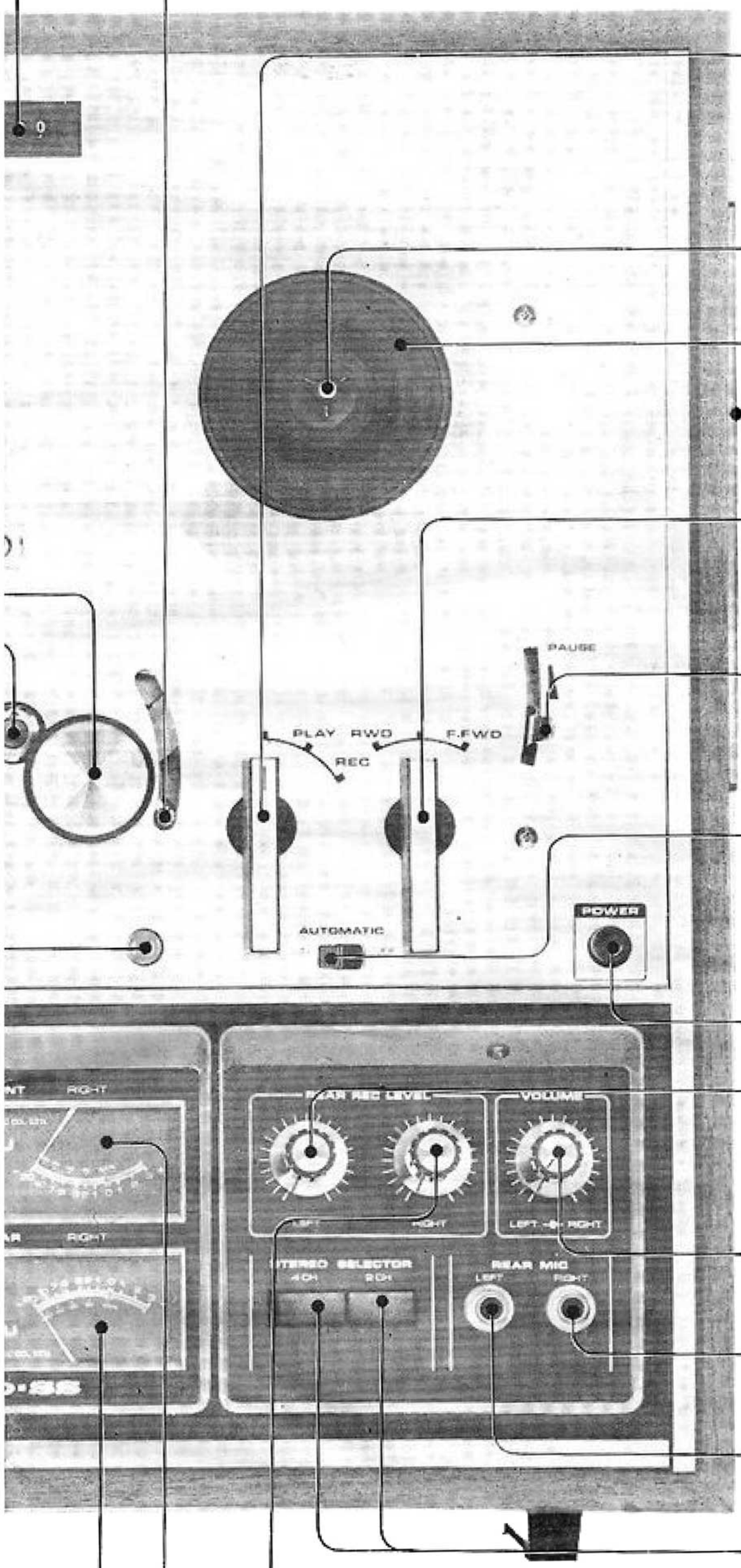

INDEX COUNTER

For use in locating positions on a tape. With Reset Button, set Index Counter to "0000" before beginning recording or playback.

AUTOMATIC SHUT-OFF LEVER

For Automatic Shut-Off, thread the tape through the Automatic Shut-Off Lever and set the Automatic Shut-Off Switch to "ON" position. When tape comes to the end or is broken, the power of the entire unit is cut off. A convenient safety feature if the recorder is left unattended.

PLAY/RECORD LEVER

For PLAYBACK mode, set PLAY to position. For RECORDING mode, depress RECORDING SAFETY BUTTON and while holding at depressed position, set PLAYBACK/REC LEVER to REC position.

REEL RETAINER

Built-In Reel Retainer locks reel firmly into place.

TAKE-UP REEL TABLE

SPEAKER

Built-In 4" front channel speaker (for 2-channel operation)

REWIND/FAST FORWARD LEVER

For effecting Rwd. or F. Fwd Mode. Do not attempt to operate this lever until Play/Record Lever is returned to neutral position (or vice-versa).

PAUSE LEVER

Convenient for use in temporarily suspending tape movement during recording or playback operation. To release, lift slightly upward and then return to normal (lower) position.

AUTOMATIC SHUT-OFF SWITCH

This switch is linked to the Automatic Shut-Off Lever. If at "ON" position, when tape comes to end or is broken, the power of entire unit is cut off. A convenient safety feature if recorder is left unattended.

POWER SWITCH

RECORDING LEVEL CONTROL (Left Rear Channel)

For adjusting recording input level of left rear channel. Adjust while observing left rear VU Meter.

SPEAKER VOLUME CONTROL

For speaker volume control. Clockwise increases volume.

MICROPHONE JACK (Right Rear Channel)

For right rear channel recording.

MICROPHONE JACK (Left Rear Channel)

For left rear channel recording.

STEREO SELECTOR

For 2-channel Stereo operation depress "2 CH" button and for 4-channel Stereo operation depress "4 CH" button.

RECORDING LEVEL CONTROL (Right Rear Channel)

For adjusting recording input level of right rear channel. Adjust while observing right rear VU Meter.

VU METER (Right Front Channel)

This meter indicates right front channel recording and playback level.

Fig. 1

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SPEAKER SWITCH
Mute/Normal Speaker Switch

SPEAKER JACKS (Left. Right)
Jacks for connection of external speakers.

DIN JACK (Rear Channel)
Enables inter-connection with external stereo amplifier by use of a single DIN connection cord (DR-111 connection cord standard accessory).

LINE OUTPUT JACK (Right Rear Channel)
For playback, connect to Tape Input Jark (right) of external amplifier.

LINE INPUT JACK (Right Rear Channel)
For recording, connect to Output Jack (right) of external recording source.

FUSE POST

VOLTAGE SELECTOR PLUG
In case of necessity to change voltage input, remove fuse post & plug and set plug to proper voltage.

AC CORD

CYCLE CONVERSION SWITCH (B)
This switch and Cycle Conversion Switch (A) on front panel must be set in accordance with area power source. Set both switches to 50 or 60 Hz as required.

LINE OUTPUT JACK (Left Rear Channel)
For playback, connect to Tape Input Jack (left) of external amplifier.

LINE INPUT JACK (Left Rear Channel)
For recording, connect to Output Jack (left) of external recording source.

LINE OUTPUT JACK (Right Front Channel)
For playback, connect to Tape Input Jack (right) of external amplifier.

LINE INPUT JACK (Right Front Channel)
For recording, connect to Output Jack (right) of external recording source.

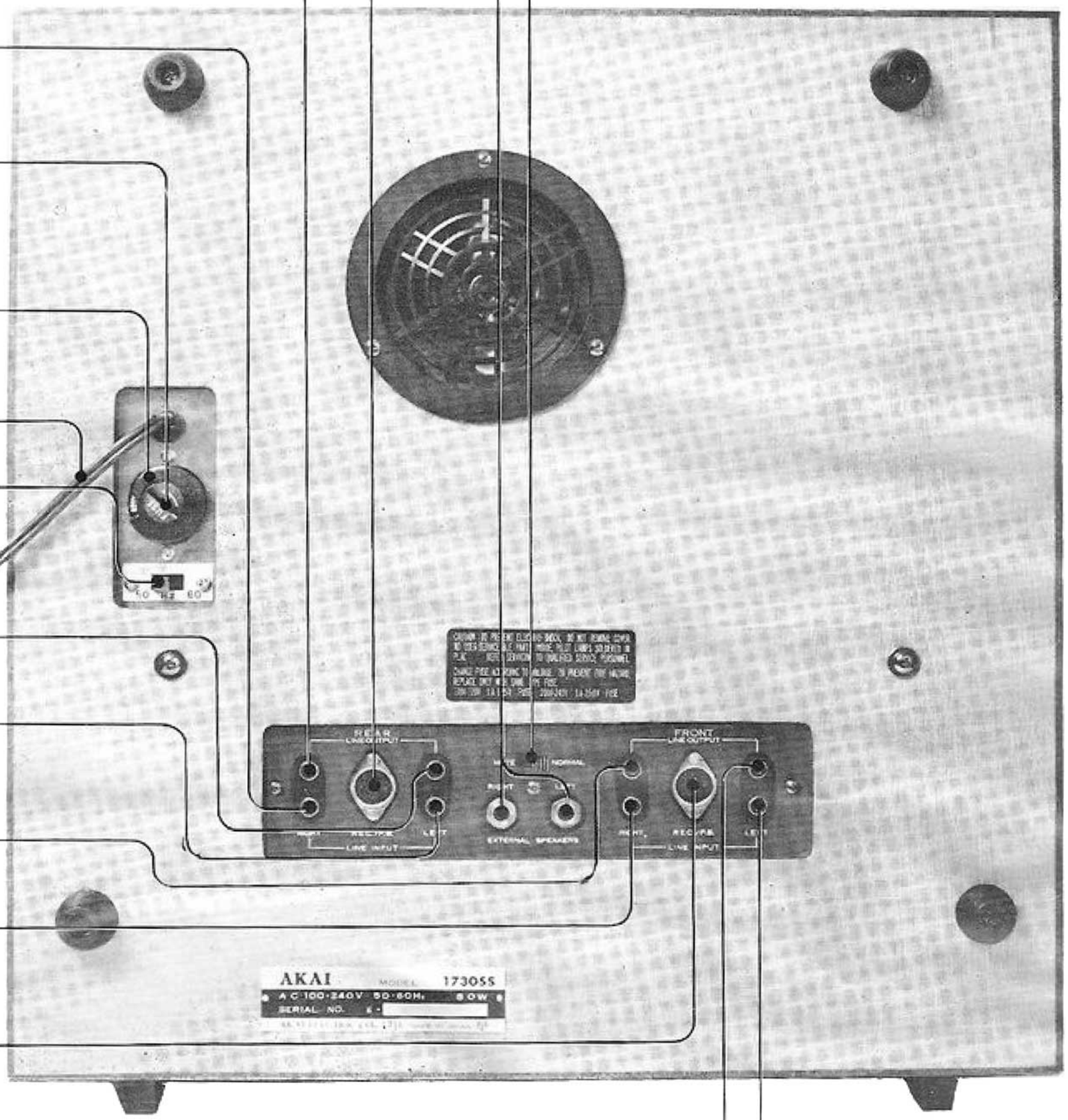

Fig. 2

DIN JACK (Front Channel)
Enables inter-connection with external amplifier by use of a single DIN connection cord (DR-111 connection cord standard accessory).

LINE OUTPUT JACK (Left Front Channel)
For playback, connect to Tape Input Jack (left) of external amplifier.

LINE INPUT JACK (Left Front Channel)
For recording, connect to Output Jack (left) of external recording source.

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3-4-CHANNEL STEREO SYSTEM

■ 4-CHANNEL STEREO

In the continued pursuance of more aesthetical sound, another stereo revolution has taken place... A new stereo "break-through" from 2-channel to 4-channel stereo.

This "move-up" to 4-channel stereo is equally as great an achievement as the advancement from monaural to 2-channel stereo. Just as 2-channel stereo sound reproduction meant the exodus of flat monaural sound, this epoch-making new system eliminates the inability to pick up and reproduce pure concert hall sound. New 4-channel stereo uses 4 signal paths or sound tracks in the program material and in playback approximates the complexity of the sound waves which reach the listener's ear when attending a live concert hall performance.

For playback, 4 speakers are positioned to surround the listener. The sound from the front and rear speakers give the listener an exciting "sense of presence". With the 4 speakers each delivering separate sound, left & right in front and left & right in back of you, you are literally surrounded with a wall of sound which fills the "hole in the middle". This 4-dimensional musical reproduction makes conventional 2-channel stereo seem empty and insufficient.

■ AKAI "SURROUND STEREO"

Exhibitions of AKAI's 4-channel stereo system are already being held in various parts of the world and are being termed by the listeners as "SENSATIONAL". AKAI's surround stereo supplements conventional stereo's 2 front speakers with 2 additional rear speakers to form the "2-2 System". The listener is surrounded by two sets of speakers (left & right front and left & right rear). This arrangement does not mean, however, that simply adding two speakers to a 2-channel system is all that is necessary for 4-channel playback. At recording time, 4 microphones are used and sound is picked up from 4 separate places. Four separate recordings are made using 4 separate channels (all four tracks in one direction). This 4-channel stereo tape feeds into 4 preamplifiers and 4 main amplifiers to activate a 4-speaker system. Thus, at playback time, sounds from separate channels are emitted from each speaker, providing the listener with a feeling that he is listening to concert hall music from the best seat in the auditorium.

If you are a jazz fan, for instance, you can record and position the speakers for playback so that the spine-tingling sax sounds are emitted from the left front speaker, drums from right front, piano from left rear, and bass from right rear. This arrangement gives the listener a real "sense of presence" creating an atmosphere in which you have the feeling of being exactly in the middle of the live performance.

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II. OPERATING INSTRUCTIONS

1–4-TRACK RECORDING/ PLAYBACK SYSTEM

The AKAI 1730-SS employs a 4-track system which can be used for either 4-channel or 2-channel stereo recording/playback. Tracks are selected by operating the STEREO TRACK SELECTOR Switches.

■ 4-CHANNEL STEREO RECORDING/PLAYBACK

4-channel stereo recording/playback requires the simultaneous use of all 4 tracks in one direction. Set Stereo Selector to "4-CH" (See page 3).

■ 2-CHANNEL STEREO RECORDING/PLAYBACK

2-channel stereo recording/playback requires the simultaneous use of two tracks. Set Stereo Selector to "2-CH" and use front channel controls. The first stereo recording/playback takes place on tracks 1 and 3, and the second on tracks 2 and 4 after the reels have been inverted.

4-track 4-channel stereo tape

1	→	Front Left CH
2	→	Rear Left CH
3	→	Front Right CH
4	→	Rear Right CH

4-track 2-channel stereo tape

1	→	Left CH
2	←	Right CH
3	→	Right CH
4	←	Left CH

→ Side A ← Side B

2–TAPE LOADING

Place a full reel of tape on SUPPLY REEL TABLE and an empty reel on the TAKE-UP REEL TABLE. Thread the tape as illustrated by the dotted line in Fig. 3.

Lock reels into place with REEL RETAINERS provided on reel shafts.

IMPORTANT : Be sure to thread tape through AUTOMATIC SHUT-OFF LEVER.

Fig. 3

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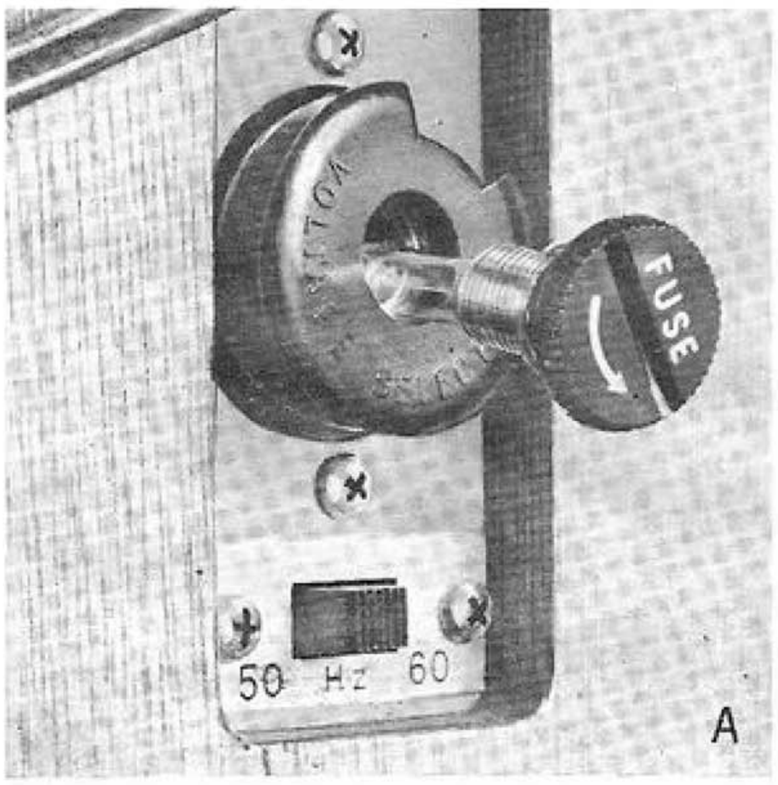

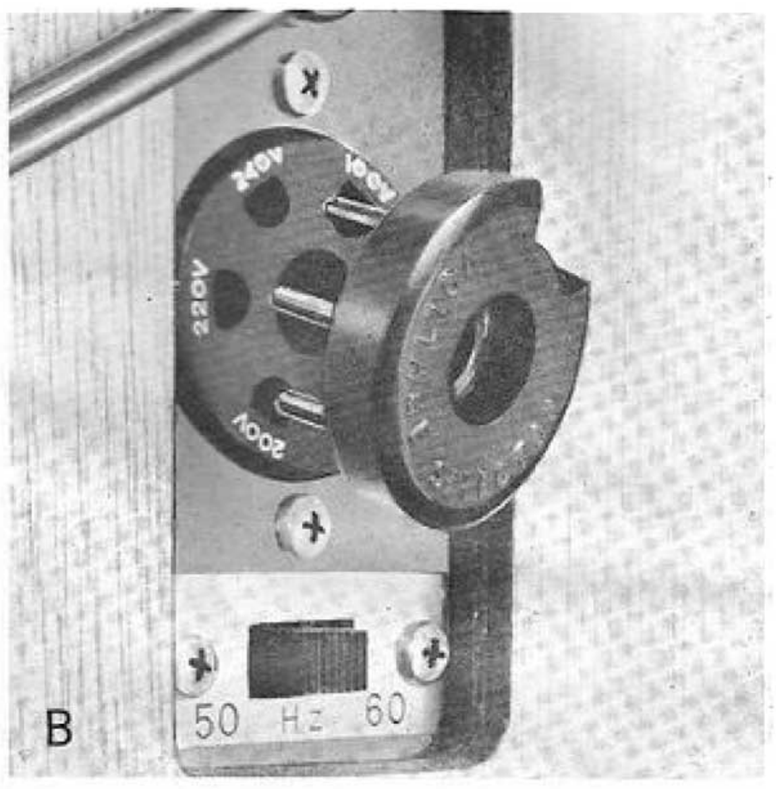

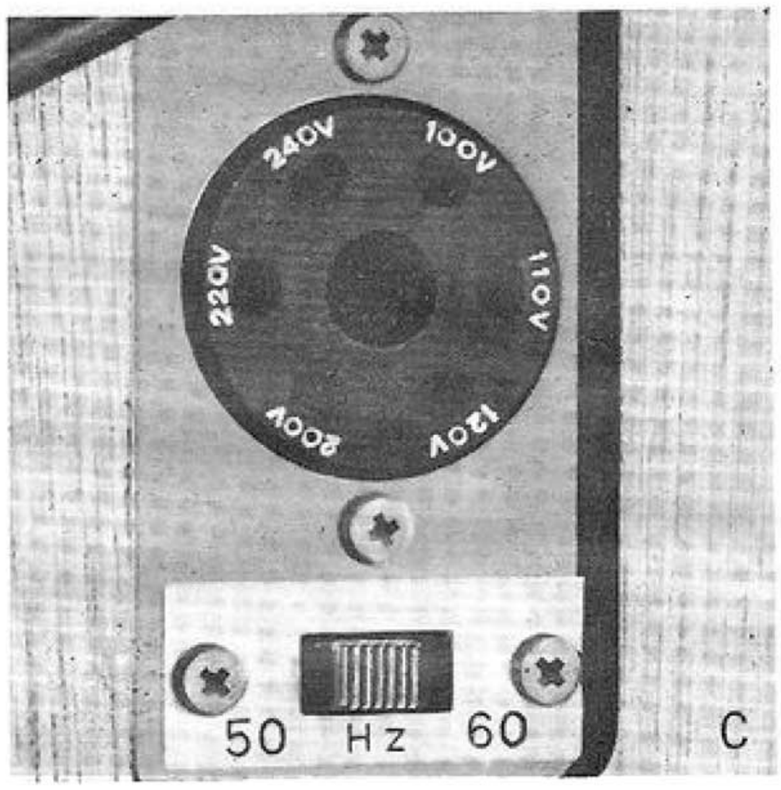

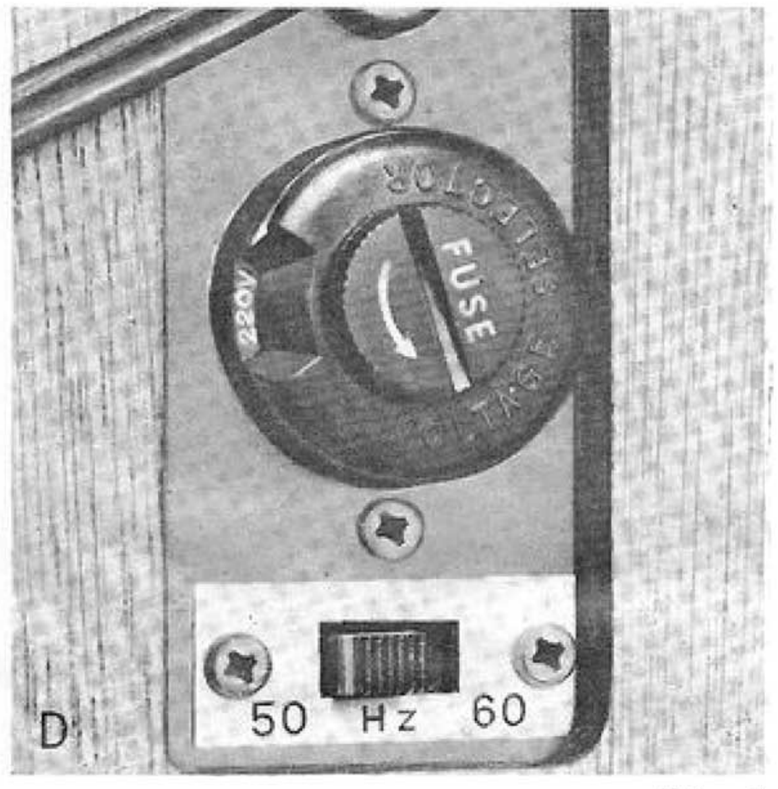

Fig. 4

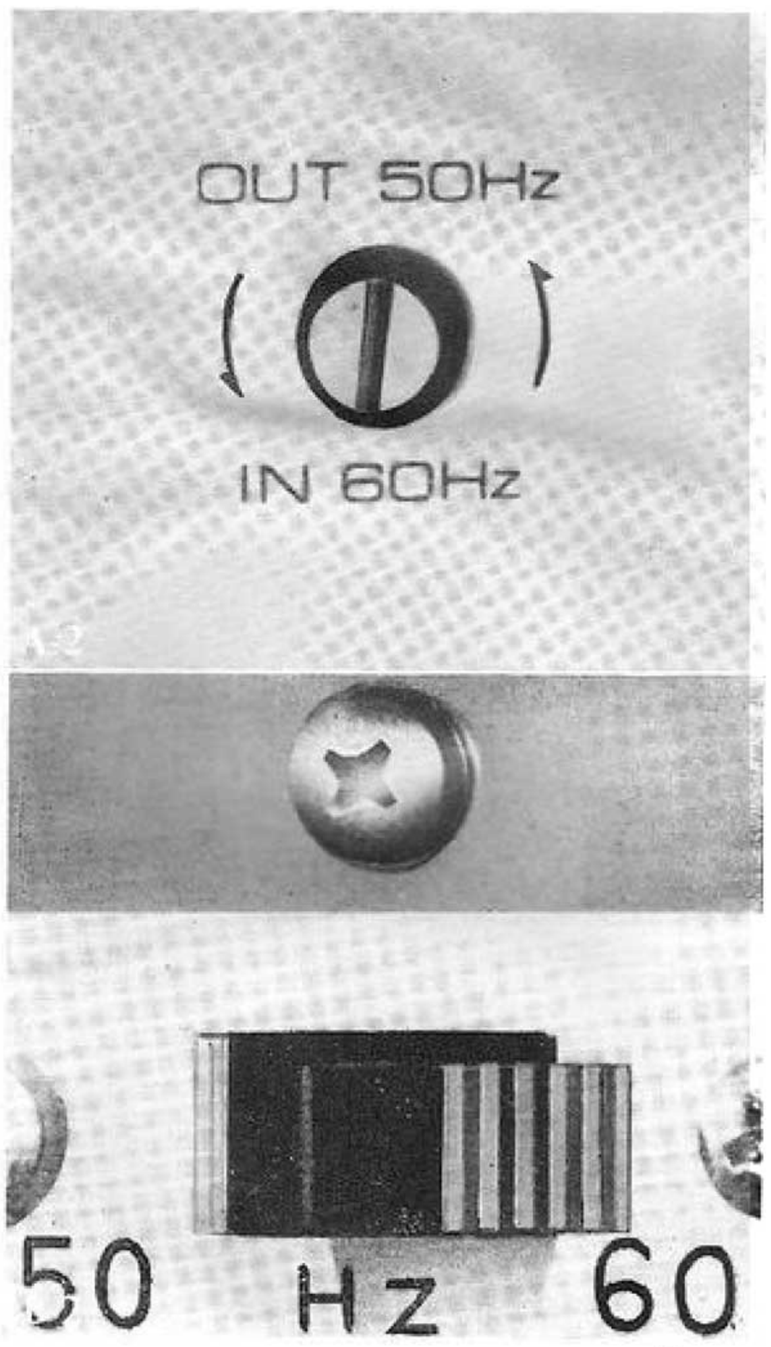

Fig. 5

3-VOLTAGE AND CYCLE CONVERSION

■ VOLTAGE

Model 1730-SS is operable anywhere in the world. With the built-in step-down power transformer, the operator can easily readjust the recorder to any one of the six stages of power voltage from 100 to 240 volts A.C. The operator is requested to check the previously set voltage before operation. If another voltage is required, readjustment can be made as follows:

(1) Remove the FUSE POST as shown in Fig. A. Remove VOLTAGE SELECTOR PLUG and reinsert to standard area voltage.

(2) The VOLTAGE SELECTOR as shown in Figs. B, C, and D is a rotable plug-in type offering 6 selections (100/110/120/200/220/240).

(3) Change the fuse according to voltage.

Voltage	100V to 120V	200V to 240V
Fuse	1.5A	1A

CAUTION: Disconnect power plug from AC outlet before readjusting voltage. To maintain optimum performance and prolong the life of your machine, it is important that the line voltage be held within 10 percent deviation of standard voltage.

■ CYCLES

Correct tape speed cannot be obtained if the CYCLE CONVERSION SWITCHES are not properly positioned. CYCLE CONVERSION SWITCH (A) is located on the upper center of the face panel and (B) is located at the rear of the recorder. Using a screw driver, rotate CYCLE CONVERSION SWITCH (A) counter-clockwise approximately one-eighth of a turn. The switch can then be moved either OUT or IN. 50 cycle operation is obtained by moving the switch OUT (Fig. A-1) and 60 cycle operation, by moving the switch IN (Fig. A-2). The switch should be rotated back to its original position after it has been moved to either IN or OUT position. CYCLE CONVERSION SWITCH (B) must also be reset accordingly.

CAUTION: Do not attempt to rotate the CYCLE CONVERSION SWITCHES when the motor is not running.

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Fig. 6

4–TAPE SPEED SELECTION

The 1730-SS Surround Stereo Tape Recorder operates on two tape speeds (3-3/4 and 7-1/2 ips). For quick and easy tape speed selection, operate convenient TAPE SPEED SELECTOR.

RECORDING TIME

Tape Length	TAPE SPEED			
	4-Track 4-Channel		4-Track 2-Channel	
	9.5 cm/sec. (3-3/4 ips)	19 cm/sec. (7-1/2 ips)	9.5 cm/sec. (3-3/4 ips)	19 cm/sec. (7-1/2 ips)
1,200 ft.	1 hour	0.5	2	1
1,800 ft.	1.5	0.75	3	1.5
2,400 ft.	2	1	4	2

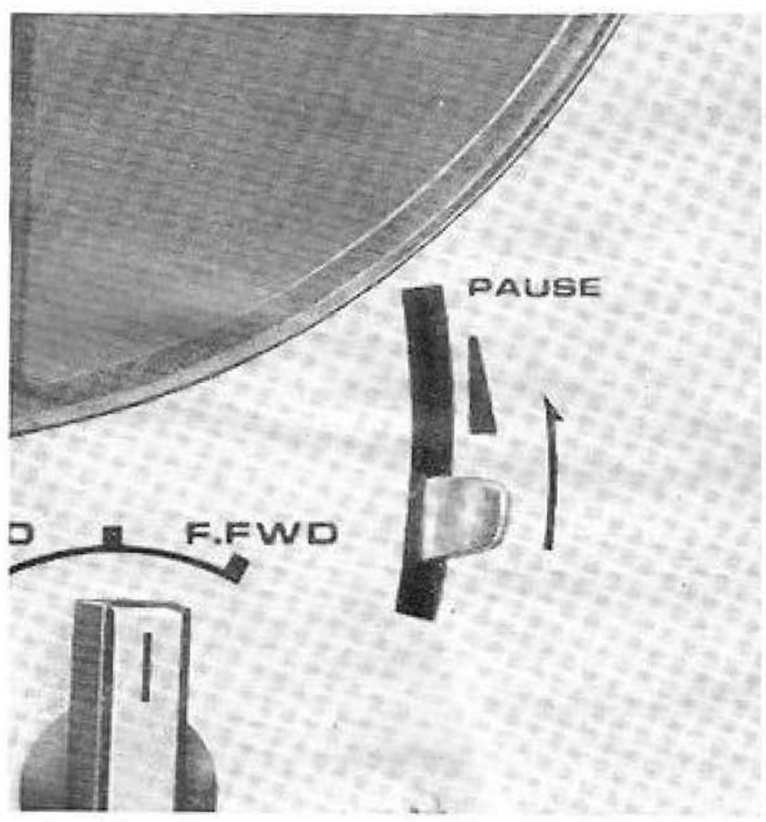

Fig. 7

5–PAUSE CONTROL

To momentarily stop the tape during recording/playback, set the PAUSE LEVER to "Pause" position (as shown in Fig. 7). PAUSE CONTROL will not function during fast forward or rewind operation.

PAUSE CONTROL is useful in editing the tape during recording (lift lever to stop recording when a certain portion of the program is not desired). Note that when the lever is released and recording again commences, no annoying "click" is impressed on the tape.

6–AUTOMATIC SHUT-OFF

One of the exclusive features of Model 1730-SS is the function of the automatic shut-off unit. If the AUTOMATIC SHUT-OFF SWITCH is set to "ON" position, when the tape comes to the end or is accidentally broken, the AUTOMATIC SHUT-OFF LEVER drops, cutting off the power of the entire unit.

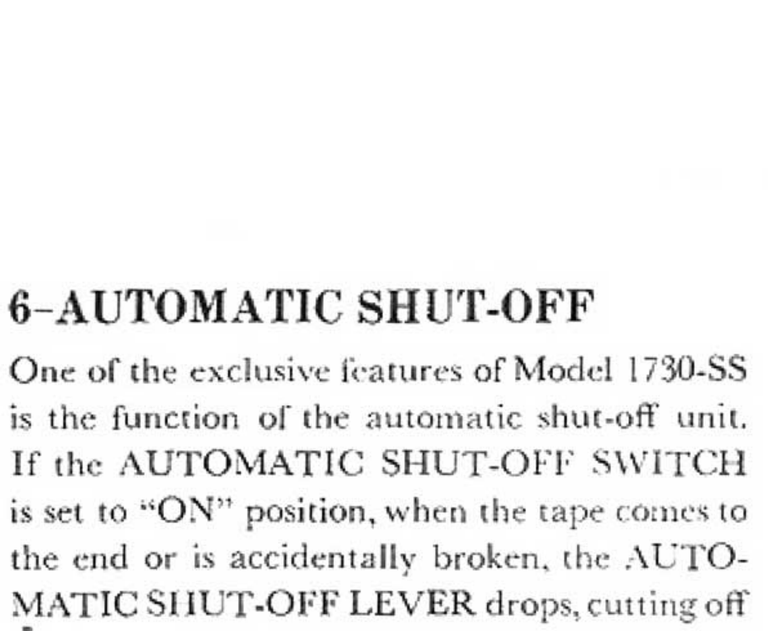

Fig. 8

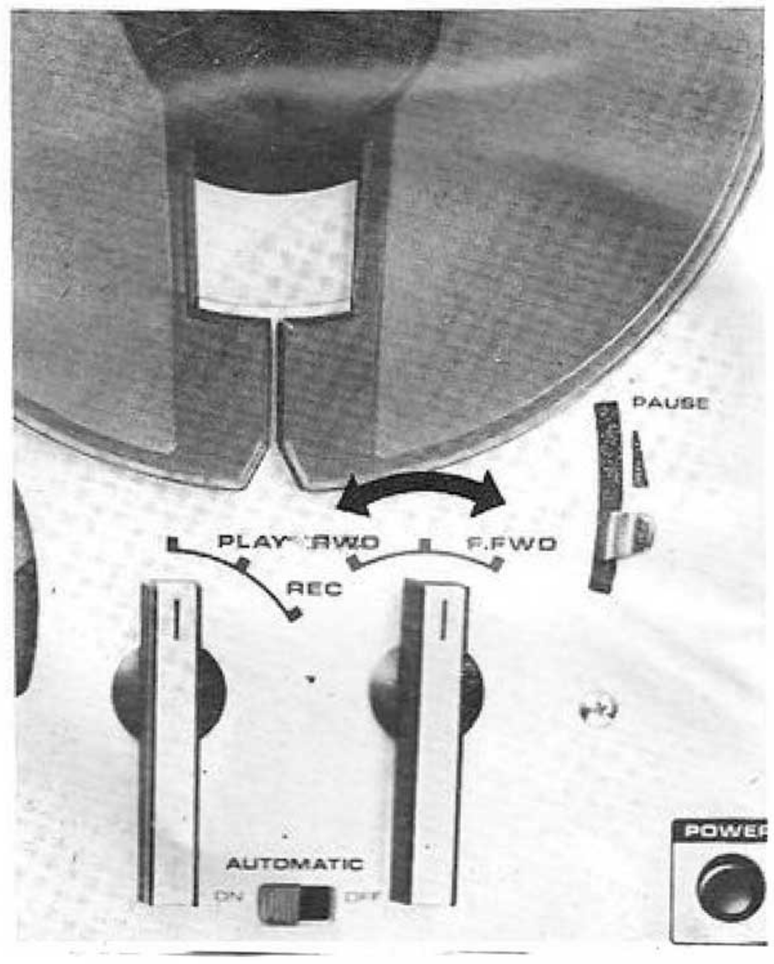

Fig. 9

7–FAST FORWARD AND REWIND

Fast Forward or Rewind is performed by operating FAST FORWARD/REWIND LEVER. Fast Forward or Rewind permits rapid selections of recordings on the tape. The Fast Forward/Rewind Lever is automatically locked into position and cannot be operated while PLAYBACK LEVER is in operation and vice-versa.

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Fig. 10

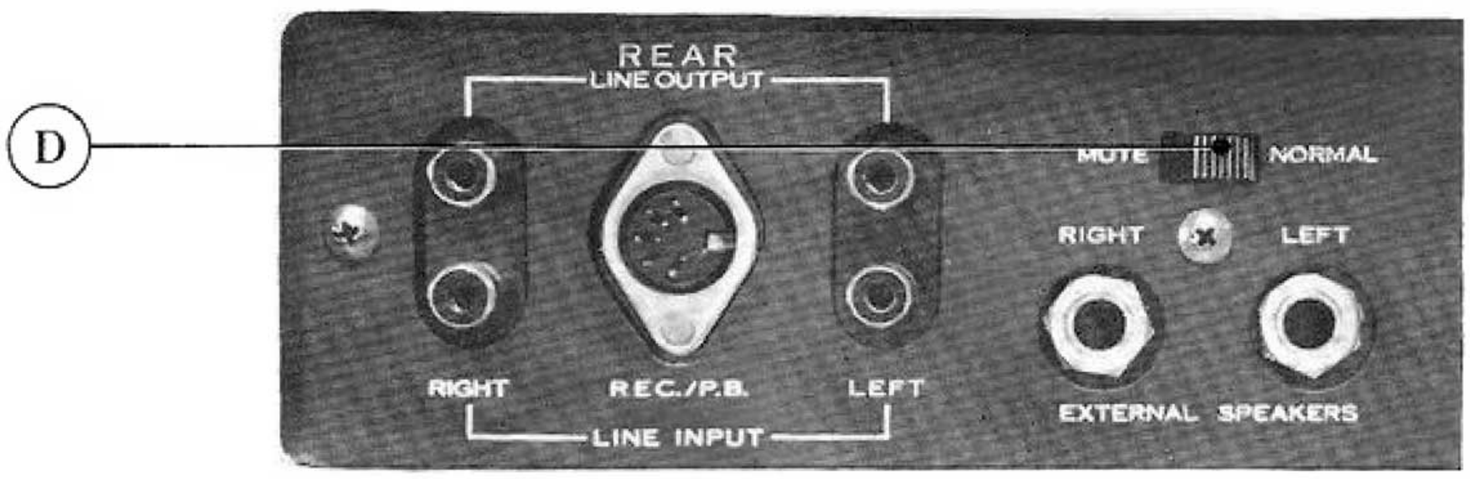

Fig. 11

■ STEREO PLAYBACK

Please be sure to check the following prior to operation.

* Heads are clean and free of dust.
* As tape which has not been used for a period of time may have become sticky, run tape once before using.
* Tape is loaded properly.

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■ 4-CHANNEL SURROUND STEREO PLAYBACK

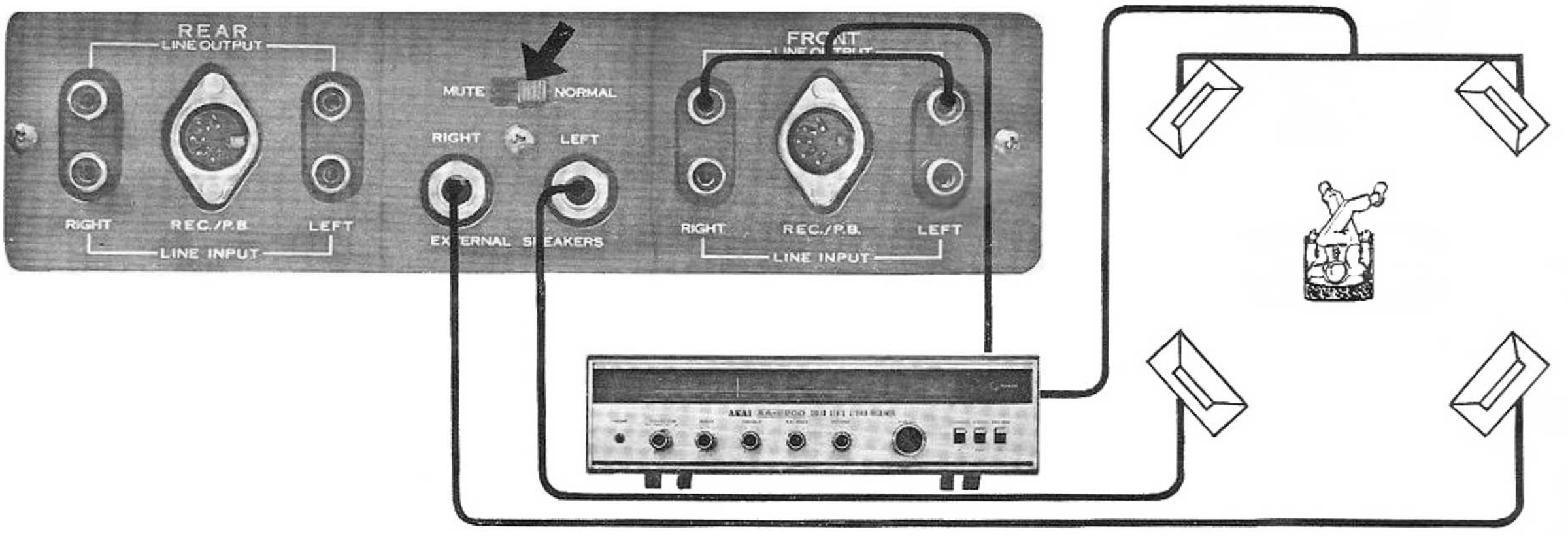

Fig. 12

Model 1730-SS is equipped with a built-in 2-channel power amplifier.

Therefore, a 2-channel external amplifier and an extra pair of speakers are all that is necessary for 4-channel surround stereo playback.

If a 2-channel stereo amplifier is used, connect FRONT CHANNEL LINE OUTPUT JACKS to TAPE INPUT JACKS of external amplifier. Connect a pair of rear speakers to the Speaker Terminals of Model 1730-SS and another pair of front speakers to the external amplifier. (Refer to Fig: 12).

If two 2-channel stereo amplifiers are used, connect REAR & FRONT CHANNEL LINE OUTPUT JACKS respectively to TAPE INPUT JACKS of both external amplifiers. Connect a pair of speakers to the Speaker Terminals of both external amplifiers, and set speaker switch of Model 1730-SS to MUTE position

Connect power plug and load a 4-channel stereo pre-recorded tape.

Ⓐ Turn on POWER SWITCH.
Ⓑ Depress 4-CH SELECTOR SWITCH.
Ⓒ Select Tape Speed.
Ⓓ Set Speaker Switch to NORM.
Ⓔ Depress TAPE MONITOR SWITCH.
Ⓕ Set PLAYBACK/REC LEVER to PLAY and adjust speaker Volume Control of Model 1730-SS and Speaker Volume Controls, etc. of external amplifier.

■ 2-CHANNEL STEREO PLAYBACK

Connect power plug and load a 2-channel stereo pre-recorded tape.

Ⓐ Turn on POWER SWITCH.
Ⓑ Depress 2-CH STEREO SELECTOR.
Ⓒ Select Tape Speed.
Ⓓ Set Speaker Switch to NORM.
Ⓔ Depress TAPE MONITOR SWITCH.
Ⓕ Set PLAYBACK/REC LEVER to PLAY and adjust SPEAKER VOLUME CONTROL.
Ⓖ Invert reels for playback on tracks 2-4.

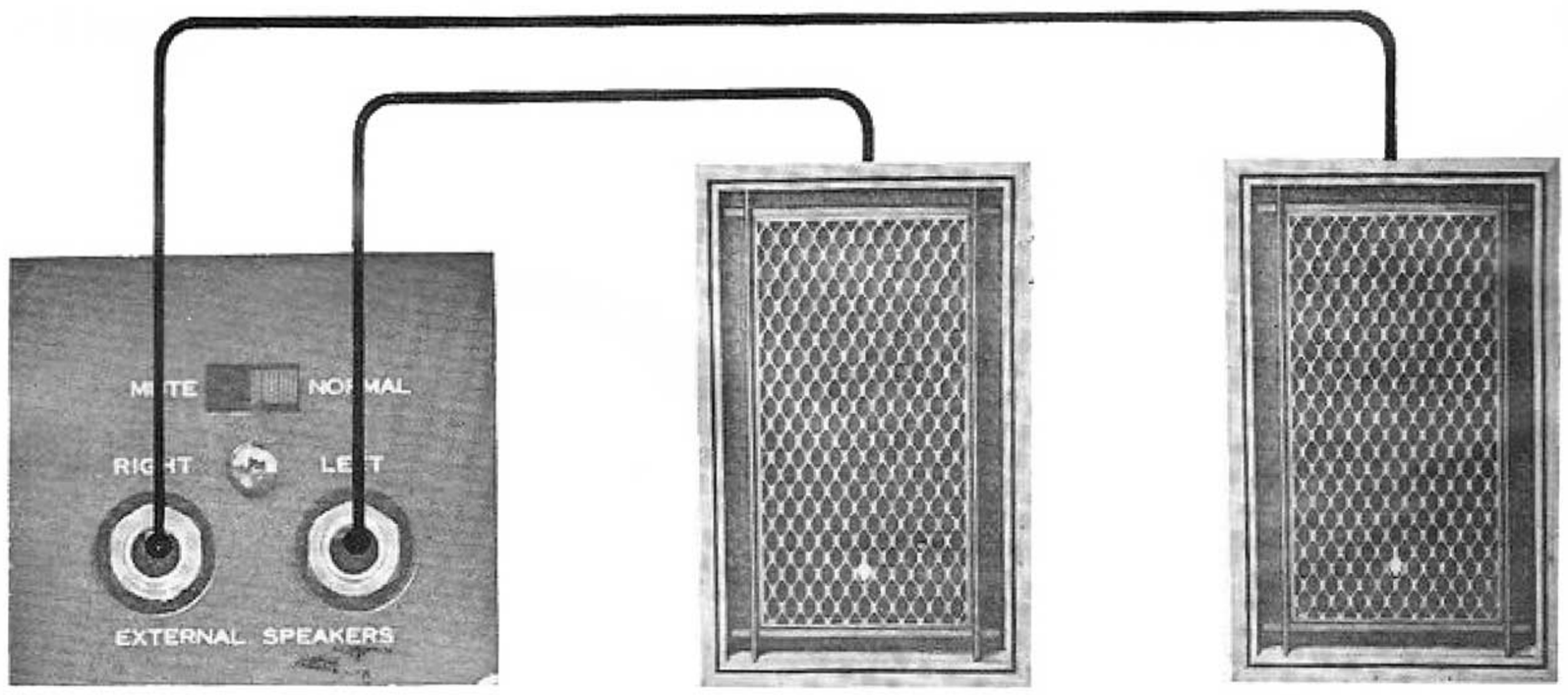

Fig. 13

Note: The 2-channel internal power amplifier of Model 1730-SS automatically switches to rear channel operation when the 4-Channel Stereo Selector is depressed, and to front channel operation when the 2-Channel Stereo Selector is depressed.

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■ PLAYBACK USING STEREO HEADPHONES

Two separate front and rear channel Stereo Headphone Jacks are provided for your convenience.

In case of 2-channel playback, use front channel Headphone Jack only. For private listening, use Stereo Headphones of low impedance type (8Ω). AKAI Model ASE-22 is highly recommended.

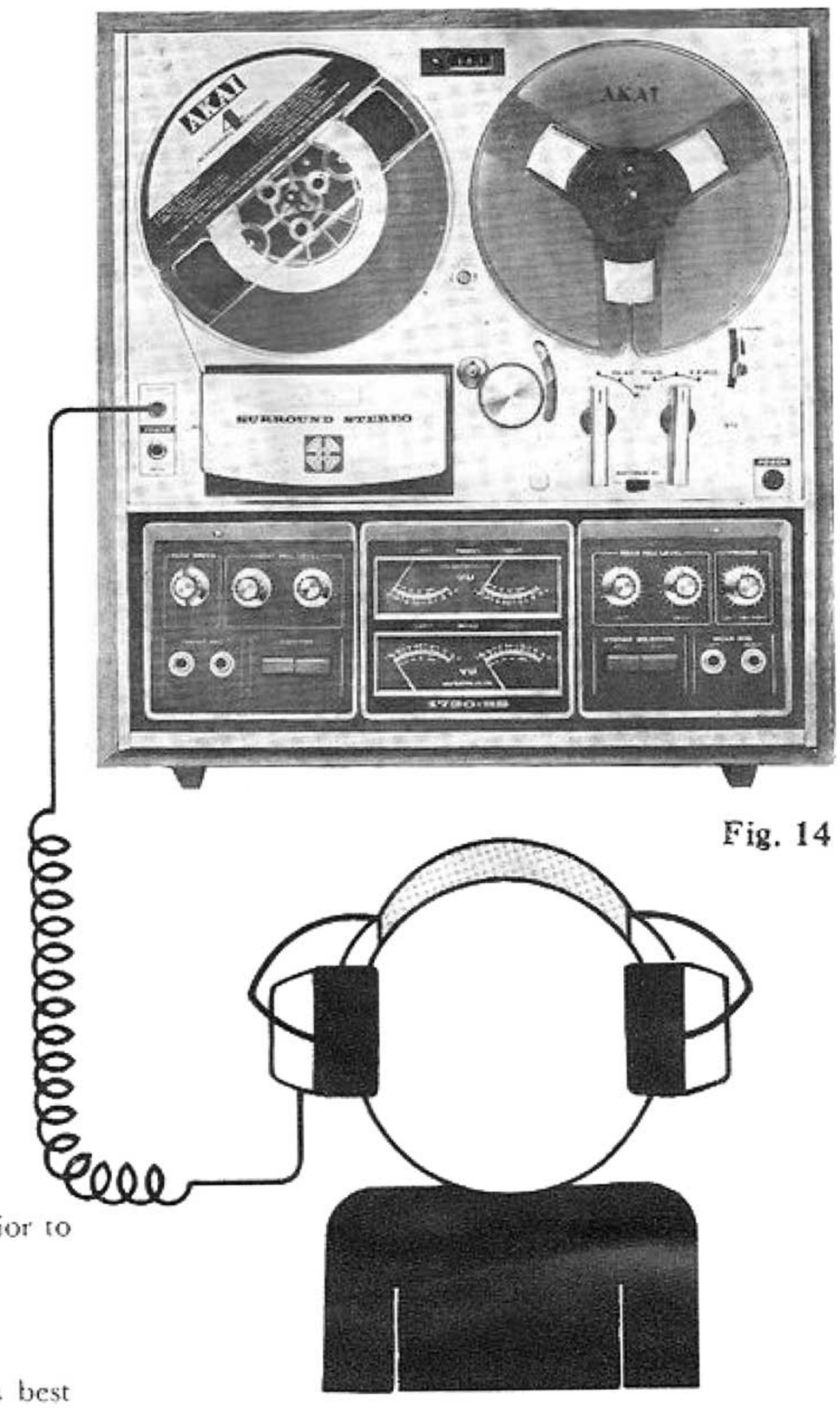

Fig. 14

9–RECORDING

Please be sure to check the following prior to operation:

* Heads are clean and free of dust.
* Heads are demagnetized.
* Use good quality tape (new tape gives best results).
* As tape which has not been used for a period of time may have become sticky, run once before using.
* Tape is loaded properly.

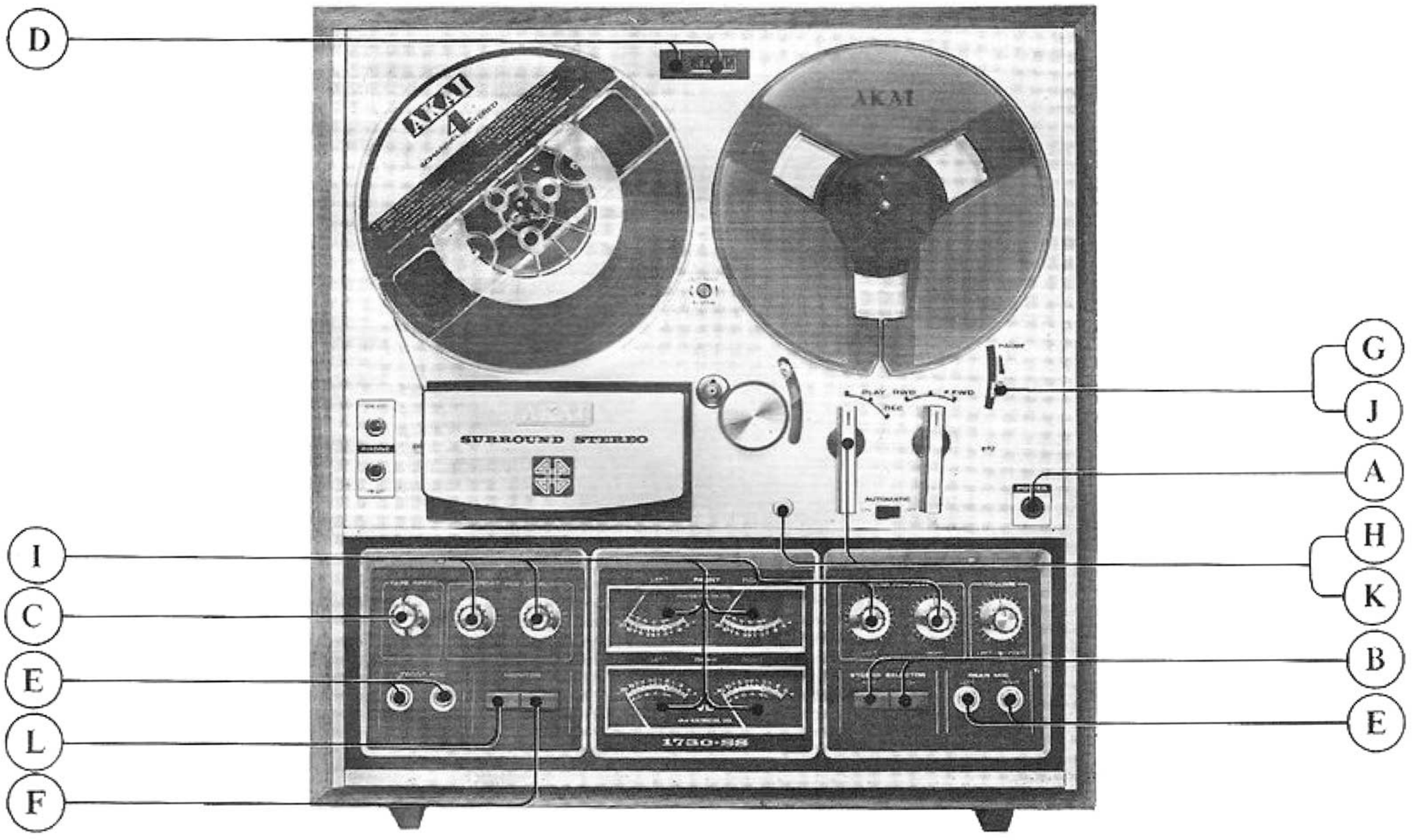

Fig. 15

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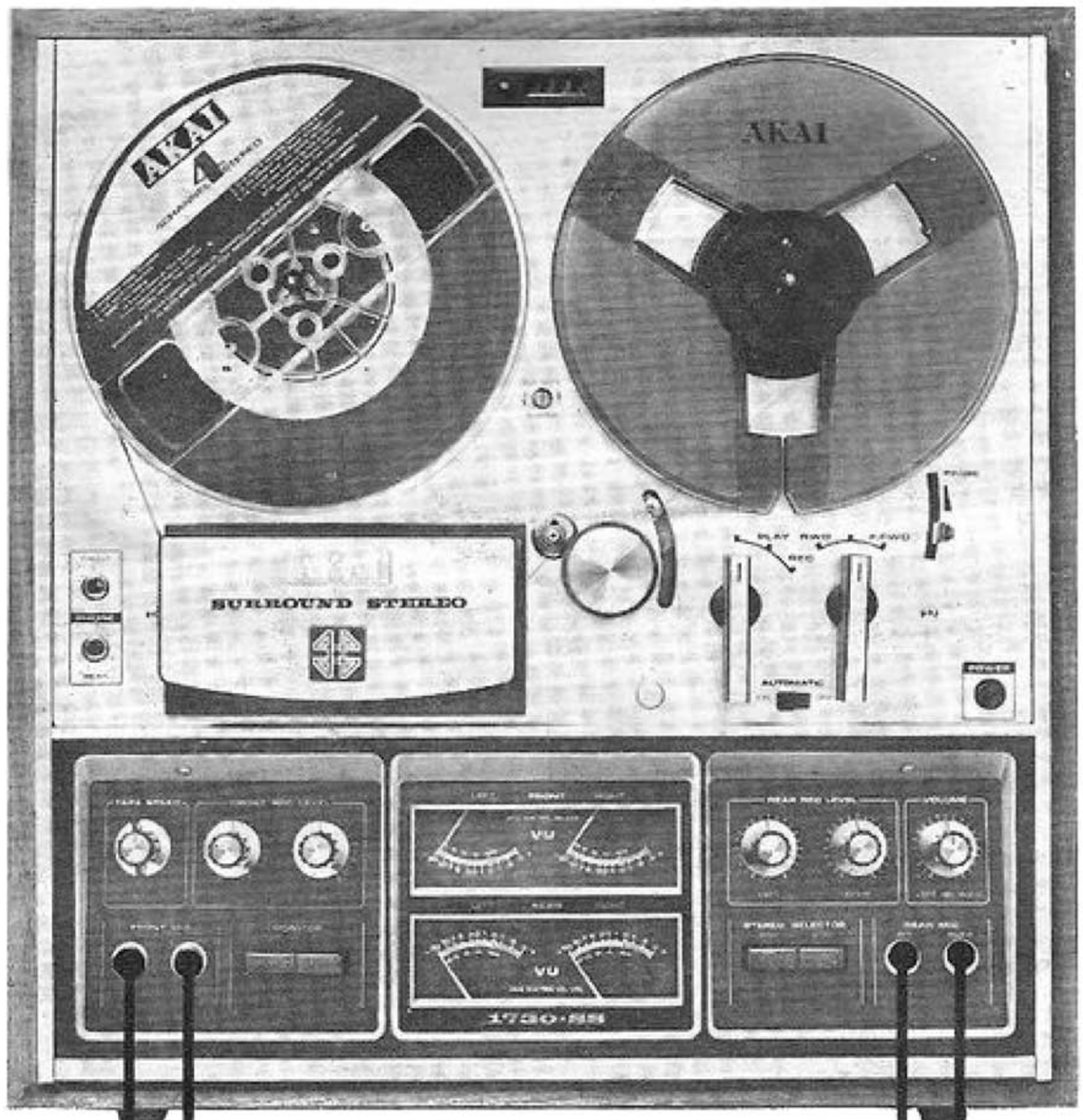
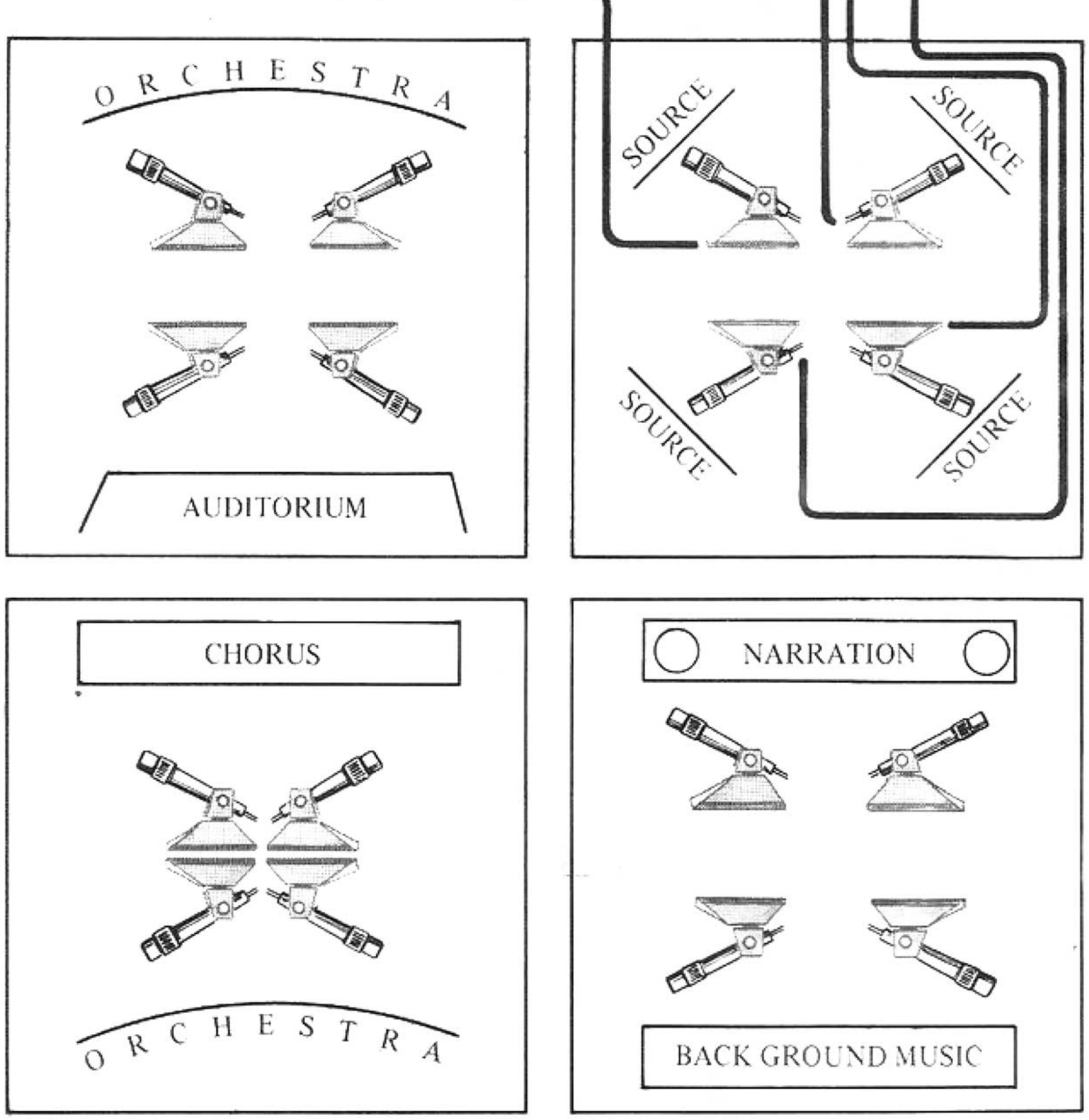


Fig. 16



■ 4-CHANNEL SURROUND STEREO RECORDING

Connect power cord and load a tape.

Ⓐ Turn on POWER SWITCH.
Ⓑ Depress 4-CH STEREO SELECTOR.
Ⓒ Select Tape Speed.
Ⓓ With RESET BUTTON, set INDEX COUNTER to "0000". This Index Counter provides an easy reference for locating positions on the tape.
Ⓔ Insert microphone plugs into MICROPHONE JACKS (front left & right and rear left & right).
Ⓕ Depress SOURCE MONITOR SWITCH.
Ⓖ Set PAUSE LEVER to PAUSE position.
Ⓗ While depressing RECORDING SAFETY BUTTON, set PLAYBACK/REC LEVER to REC.
Ⓘ Adjust and balance microphone volume levels by operating corresponding REC LEVEL CONTROLS while observing corresponding VU Meters. Normal recording should not exceed "0" VU on any of the respective VU Meters.
Ⓙ When an optimum recording level has been determined, release PAUSE LEVER to begin recording.
Ⓚ To stop recording, return PLAYBACK/REC LEVER to STOP (vertical) position.
Ⓛ In case of using headphones for monitoring recorded signals, depress TAPE MONITOR SWITCH.

■ CONVENTIONAL 2-CHANNEL STEREO RECORDING

For conventional 2-channel stereo recording substitute the following steps for steps Ⓑ & Ⓔ of 4-channel stereo recording procedure and add step Ⓜ.

Ⓑ Depress 2-CH STEREO SELECTOR.
Ⓔ Insert microphone plugs into MICROPHONE JACKS (front left & right).
Maintain a distance of at least 2 meters (7 ft.) between microphones.
Ⓜ Invert reels for recording on tracks 2-4.

There are many possibilities for microphone placement. Experiment with a variety of positions according to your own musical taste.

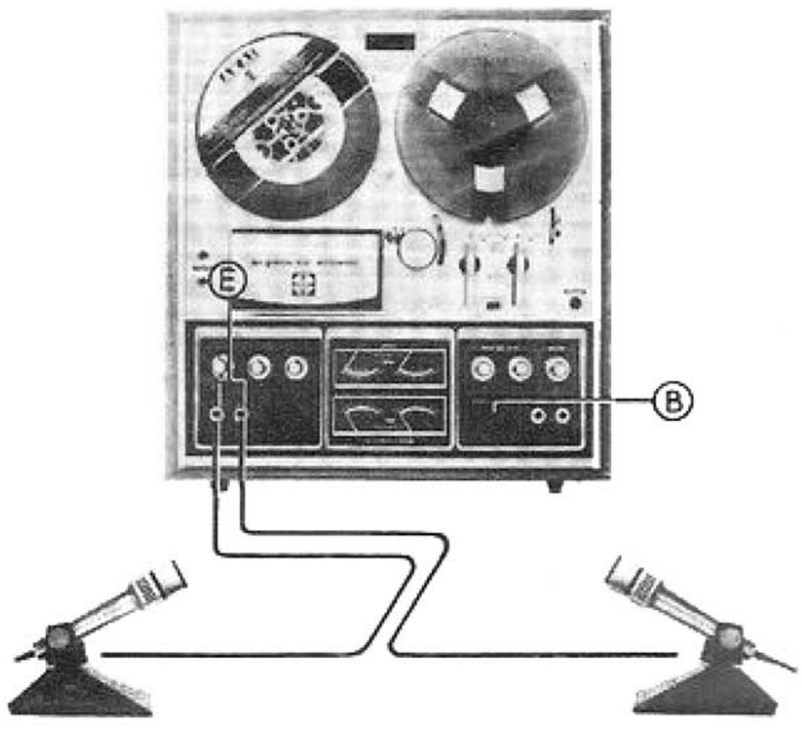


Fig. 17

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■ RECORDING FROM OTHER EXTERNAL SOURCES

■ 4-CHANNEL SURROUND STEREO RECORDING

For 4-channel stereo recording, connect the front & rear channel LINE INPUTS of Model 1730-SS to the front & rear channel OUTPUTS of your 4-channel external source instead of step Ⓔ of 4-channel stereo recording procedure.

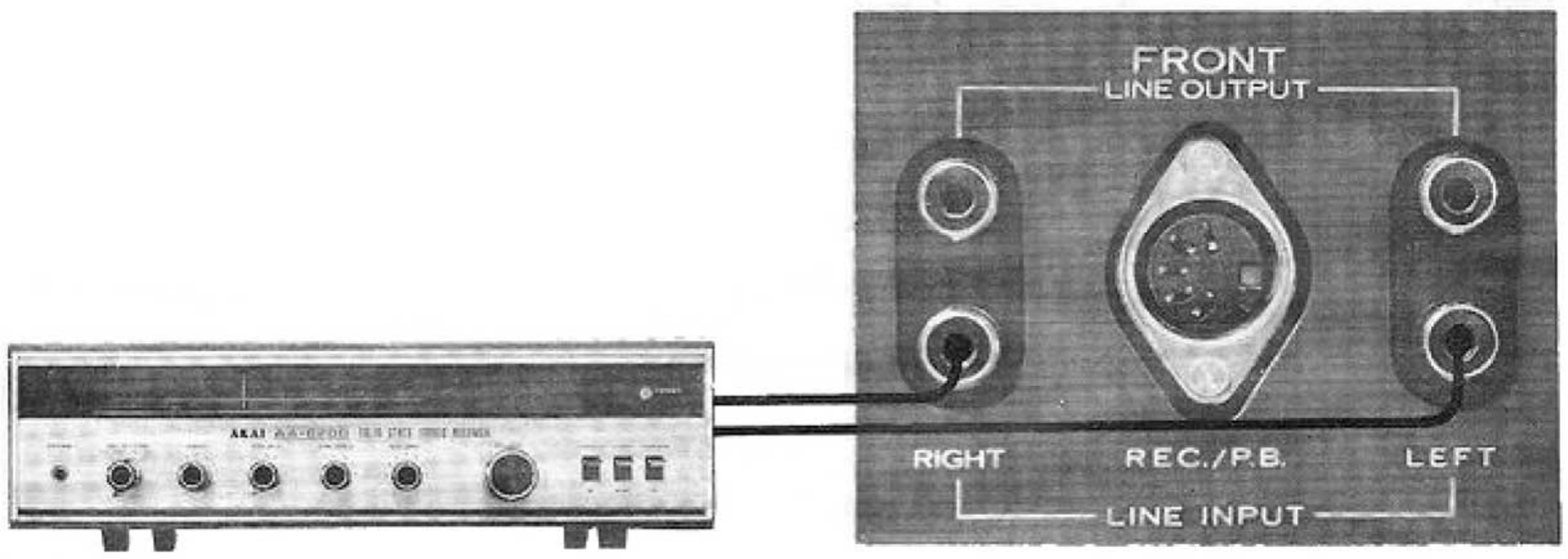


Fig. 18

From another tape recorder

For 4-channel Surround Stereo recording, connect the front and rear LINE OUTPUT JACKS of the playback recorder to the front and rear LINE INPUT JACKS of Model 1730-SS instead of Step Ⓔ of 4-channel surround stereo recording procedure.

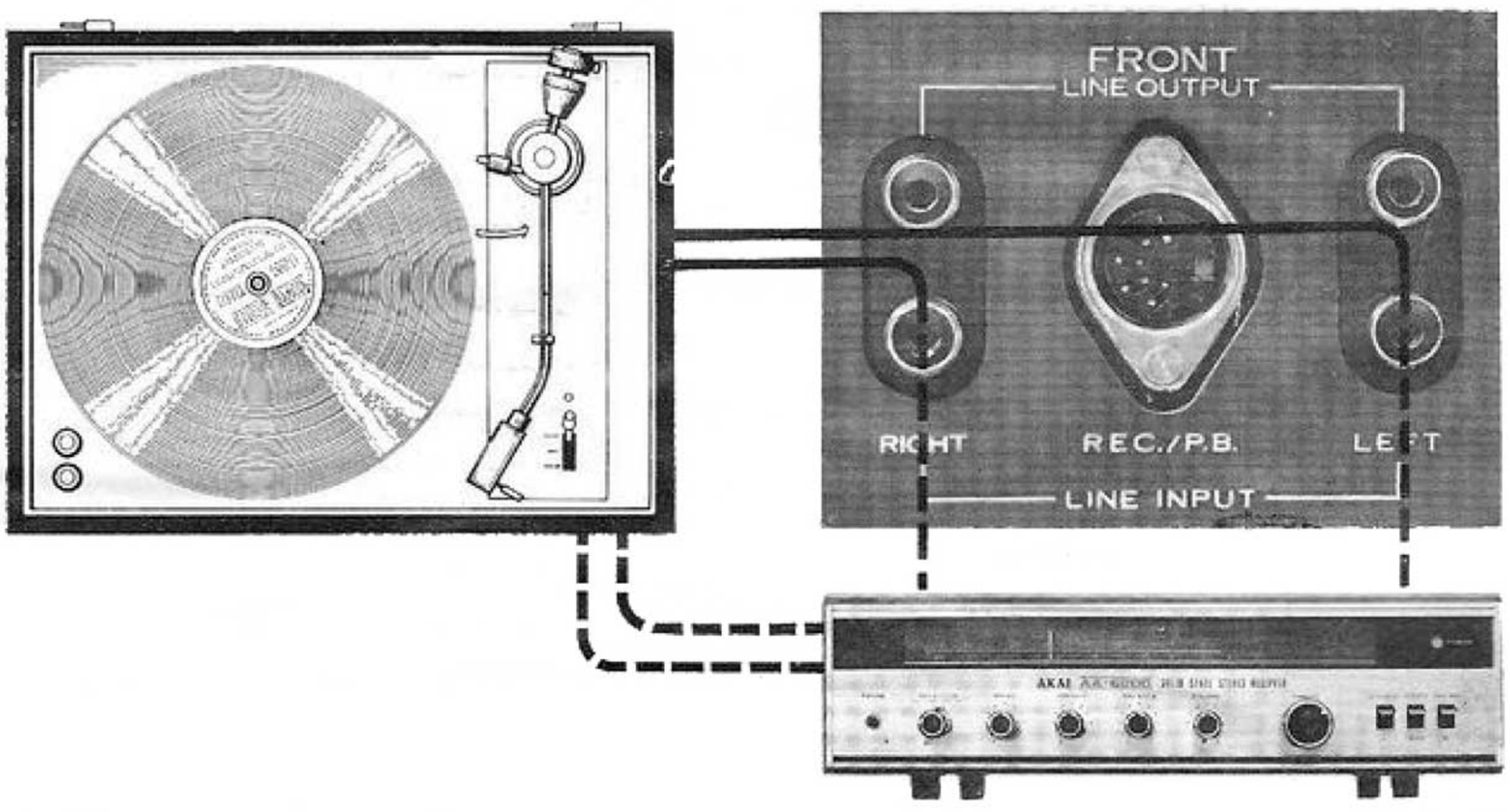


Fig. 19

■ 2-CHANNEL STEREO RECORDING

From an external amplifier (fig. 18)

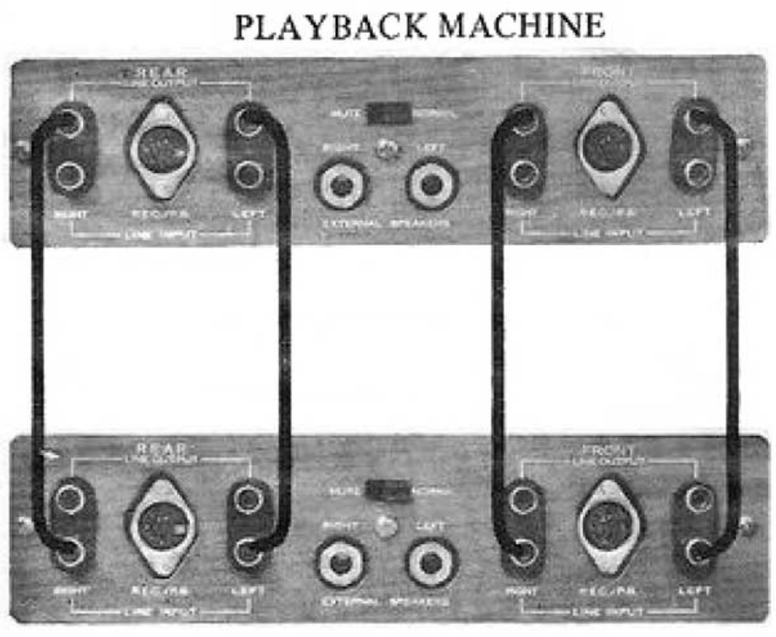
Connect the OUTPUT leads of the external amplifier or tuner amplifier to the front channel LINE INPUT JACKS instead of Step Ⓔ of conventional 2-channel stereo recording procedure.

From a record player (fig. 19)

A "crystal pick-up" or a "ceramic pick-up" can be connected directly to the front channel LINE INPUT JACKS instead of Step Ⓔ of conventional 2-channel stereo recording procedure. If a "magnetic cartridge" is used, for proper equalization, it must be connected to the Line Input Jacks through an external amplifier.

From another tape recorder

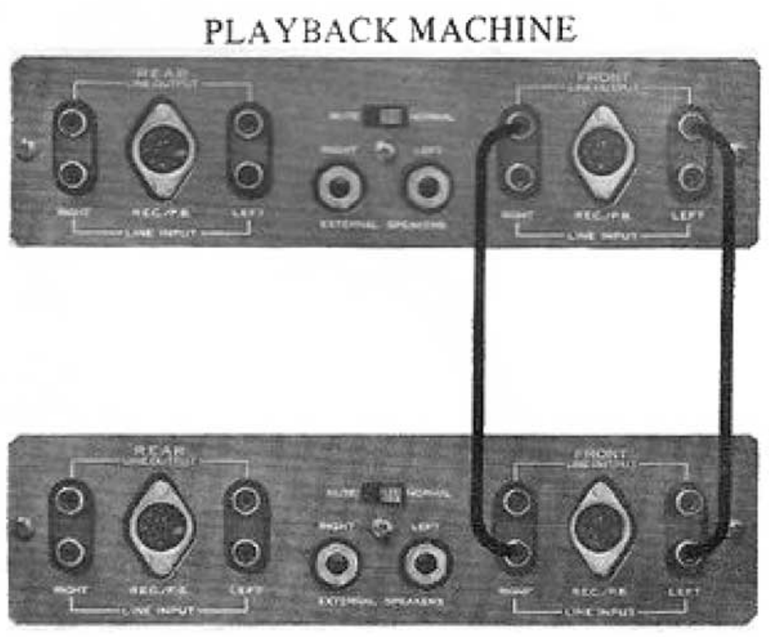
For 2-channel recording, connect the LINE OUTPUT JACKS of the playback machine to the front channel LINE INPUT JACKS of Model 1730-SS instead of Step Ⓔ of conventional 2-channel stereo recording procedure.



PLAYBACK MACHINE

RECORDING MACHINE

Fig. 20



PLAYBACK MACHINE

RECORDING MACHINE

Fig. 21

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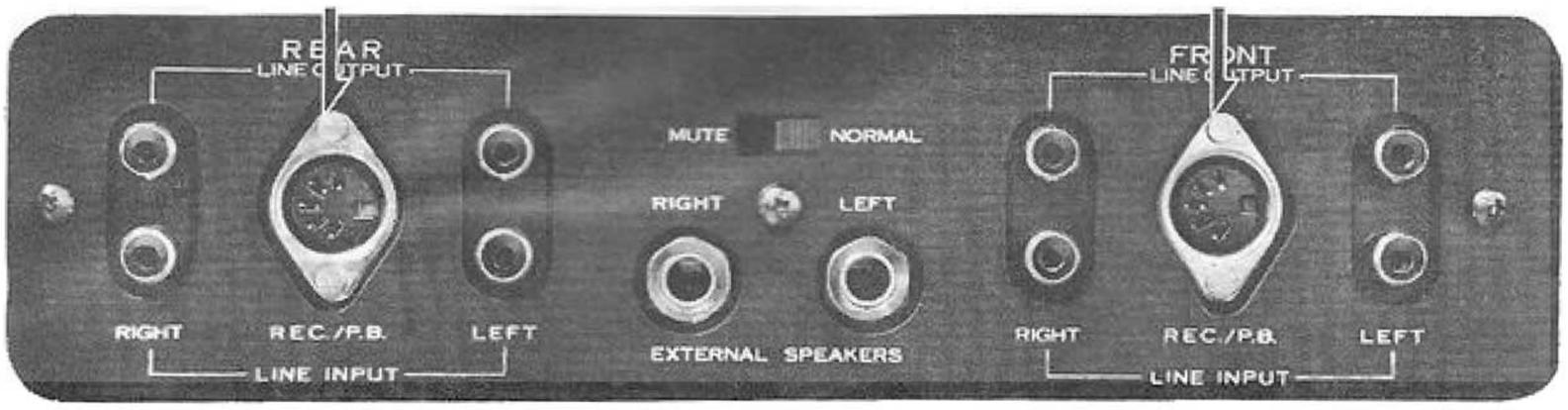


Fig. 22

■ DIN JACKS

The DIN JACKS at the rear of the recorder are for use in inter-connecting Model 1730-SS with an external stereo amplifier. This system enables easy recording and playback through an external amplifier as the complex connection or disconnection of several separate plugs is not necessary.

An AKAI DR-111 DIN Connection Cord has been included in the standard accessories for your convenience.

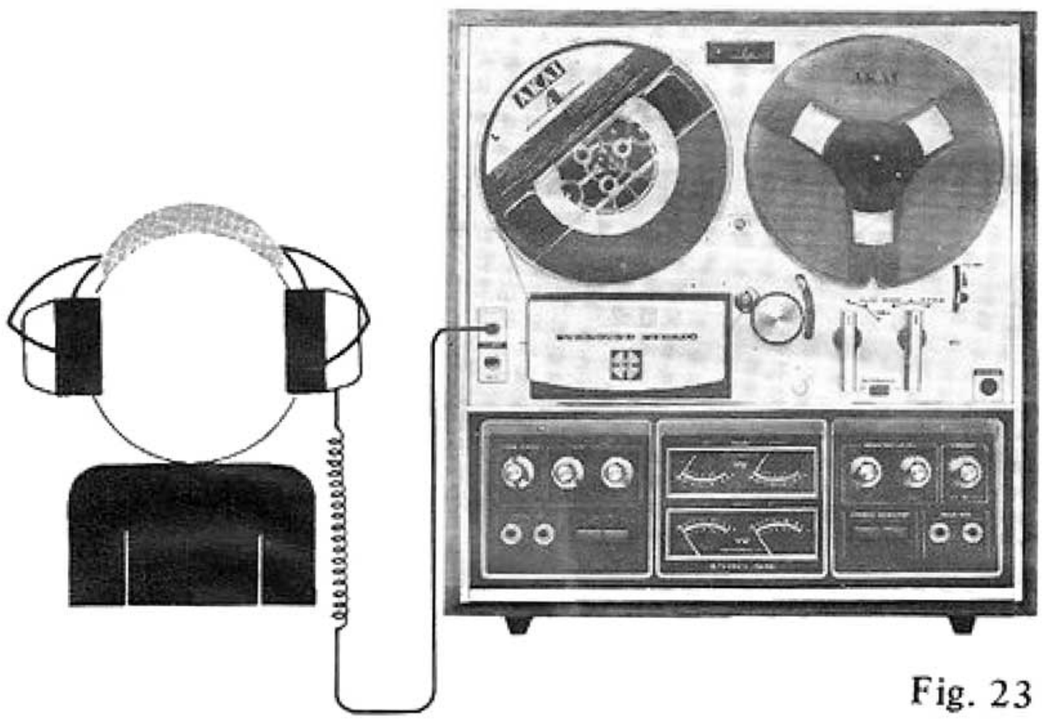
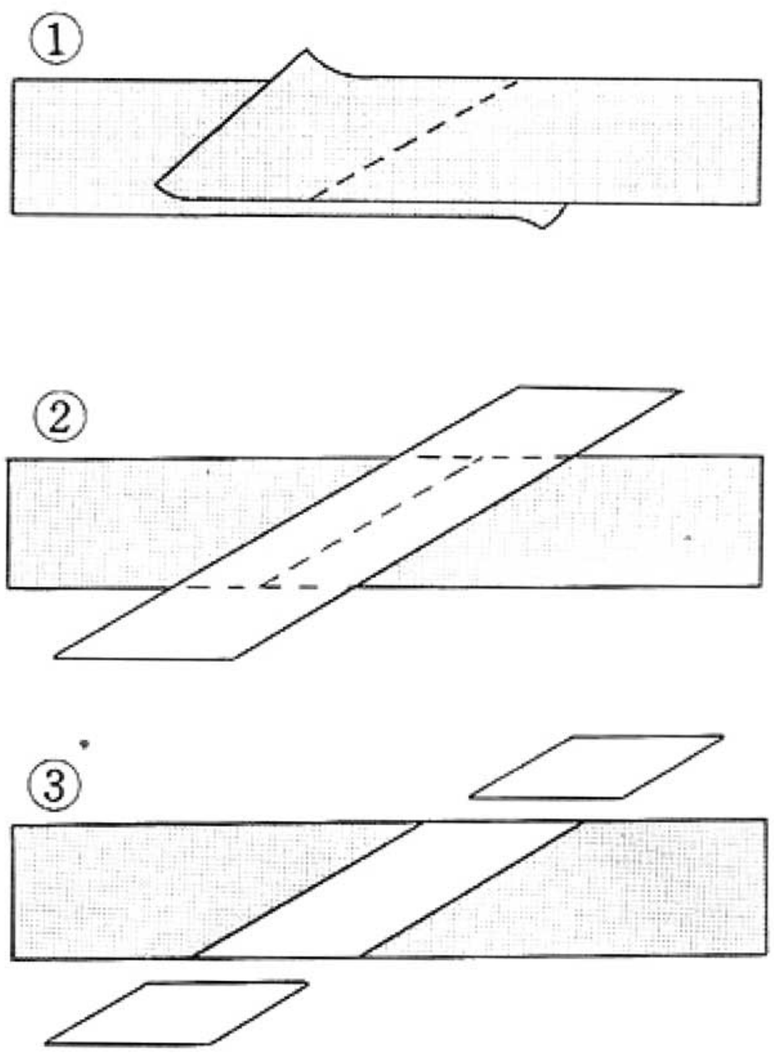


Fig. 23

■ MONITORING

For monitoring, connect Stereo Headphones to Front or Rear STEREO HEADPHONE JACK. Stereo Headphones should be of 8Ω impedance type. AKAI Model ASE-22 is highly recommended.



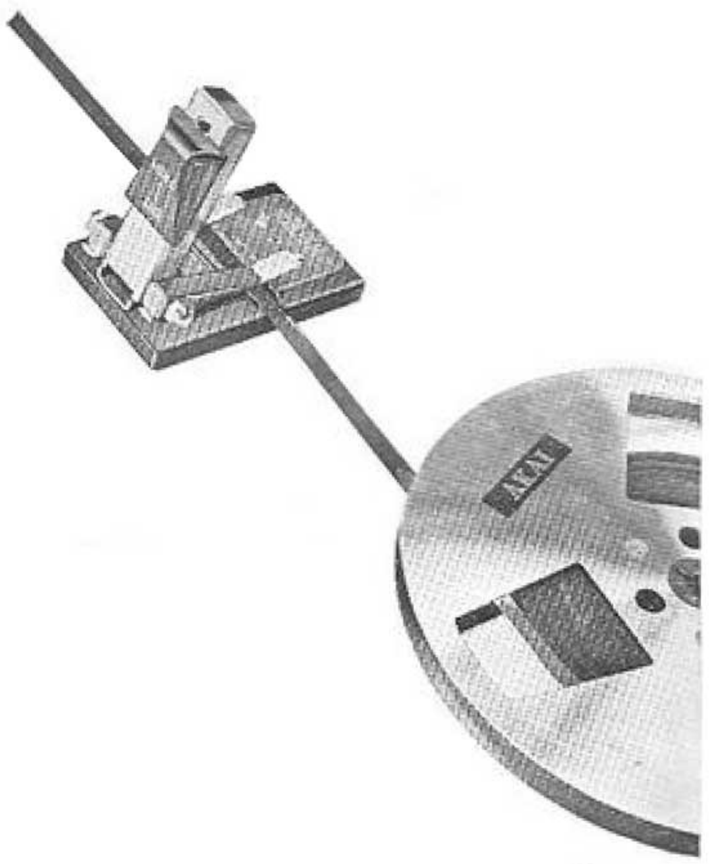


Fig. 24

10–TAPE SPLICING AND EDITING

Cut tape diagonally with an overlap so that the ends are lined up (cutting tape on diagonal eliminates detection of the splice in recording). Cover aligned ends with SPLICING TAPE. Press firmly, exerting pressure to secure ends evenly. Trim off excess splicing tape (Cut into recording tape very slightly as illustrated by dotted lines. This eliminates the possibility of a sticky splice). Splicing of tape using scissors requires skillful work. With our specially designed PORTABLE SPLICER, splicing can be done very smoothly.

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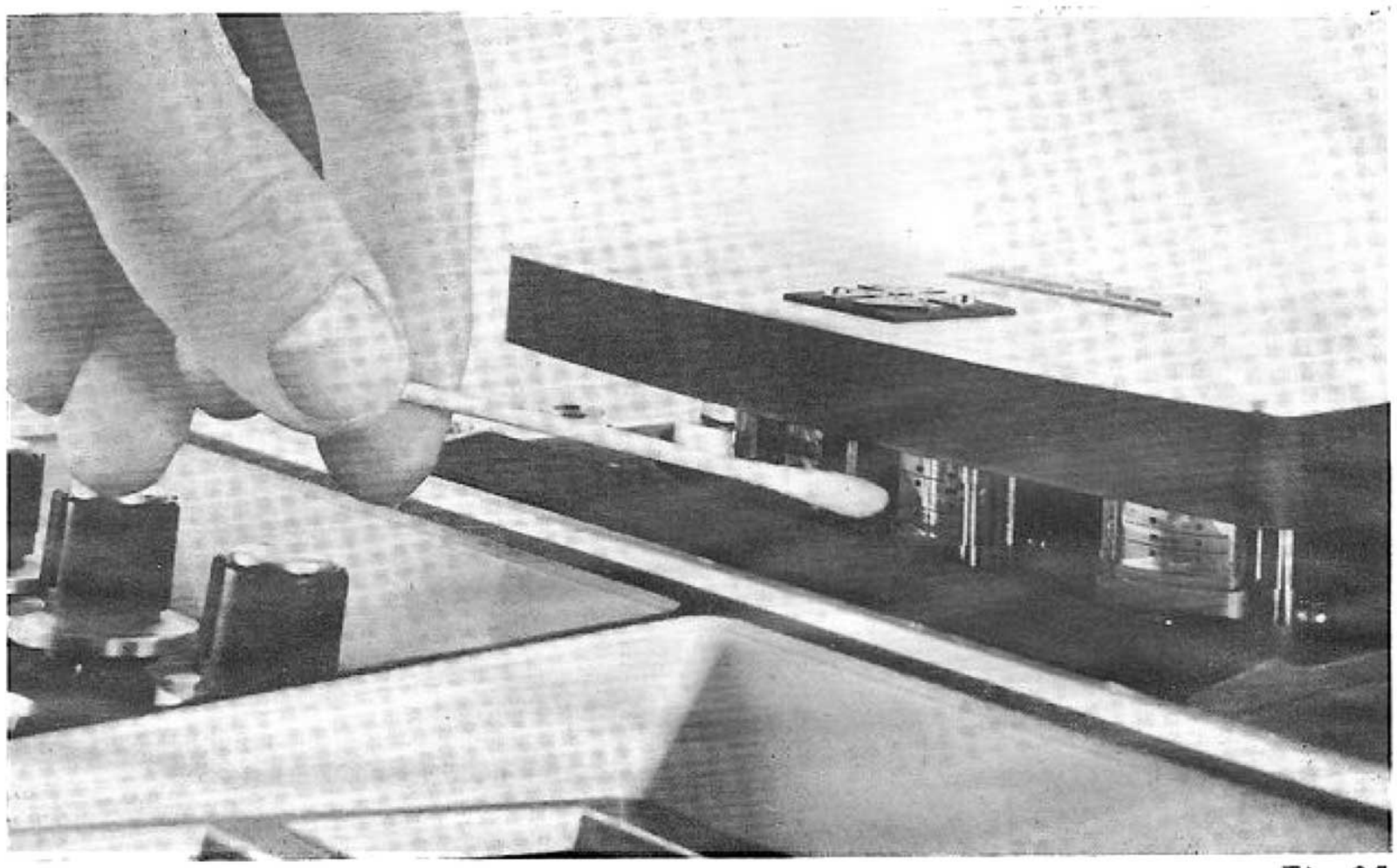


Fig. 25

11–HEAD CLEANING

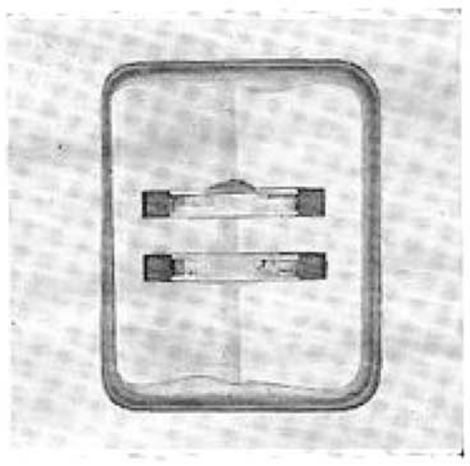
Tape Oxide/Dust Deposits Cause 90% of Tape Recording Failures

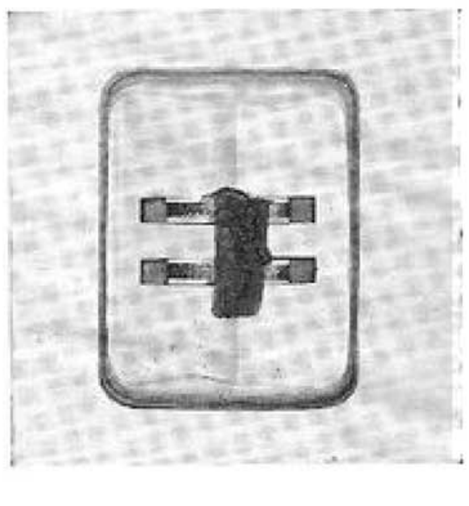
For quality performance it is imperative that tape recorder heads be kept clean at all times. Dust and magnetic particles from the tape tend to deposit on the heads after prolonged use of the recorder. This results in poor head-to-tape contact deteriorating sound quality and sensitivity. Such dust causes drastic drops in recording/playback levels and nullifies high quality sound.

Make it a rule to clean the heads every time your use your recorder. AKAI's Head Cleaning Kit Model HC-500 is recommended for removing foreign matter deposited on the heads.

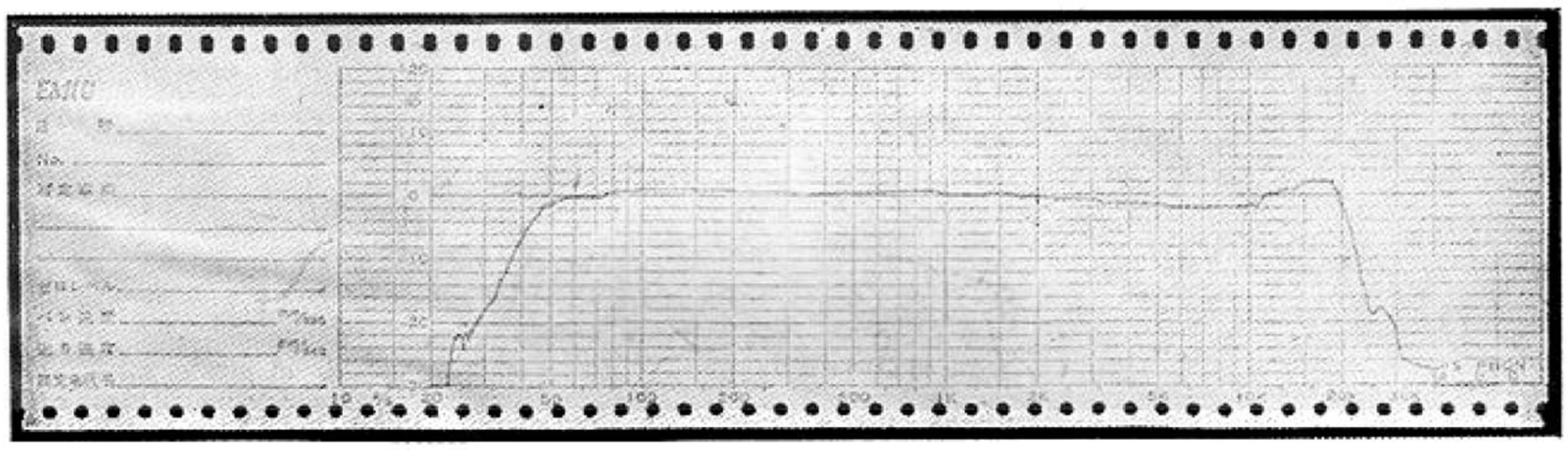
Note: Set Playback/Rec Lever to PLAY position while cleaning the heads.

EXAMPLE





CLEAN HEAD **Frequency response curve**



DUSTY HEAD

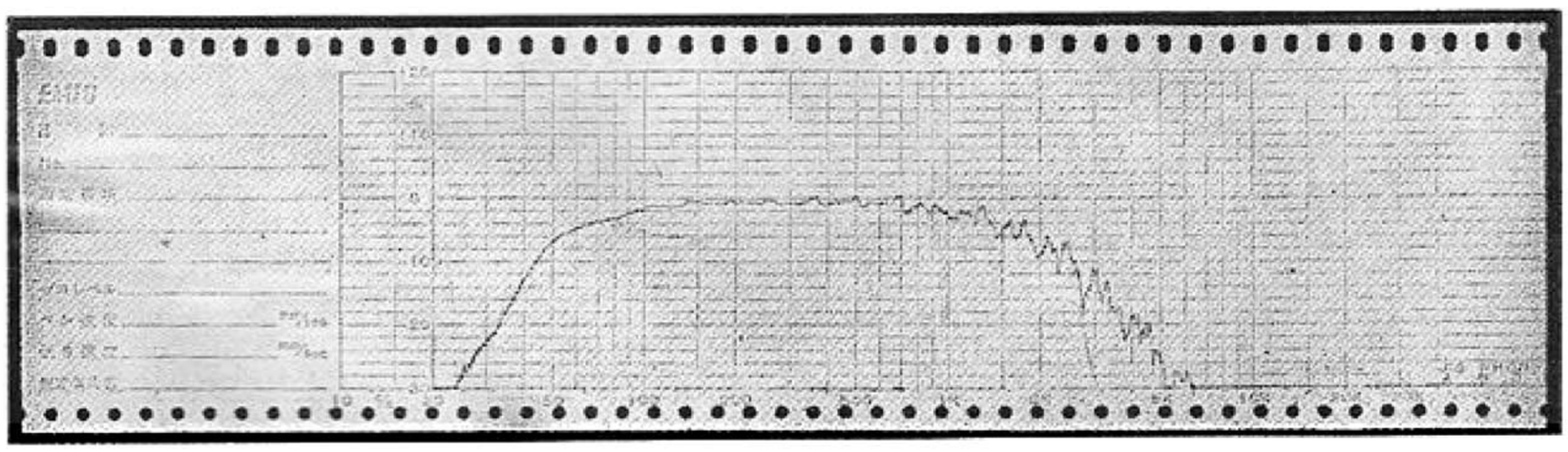


Fig. 26

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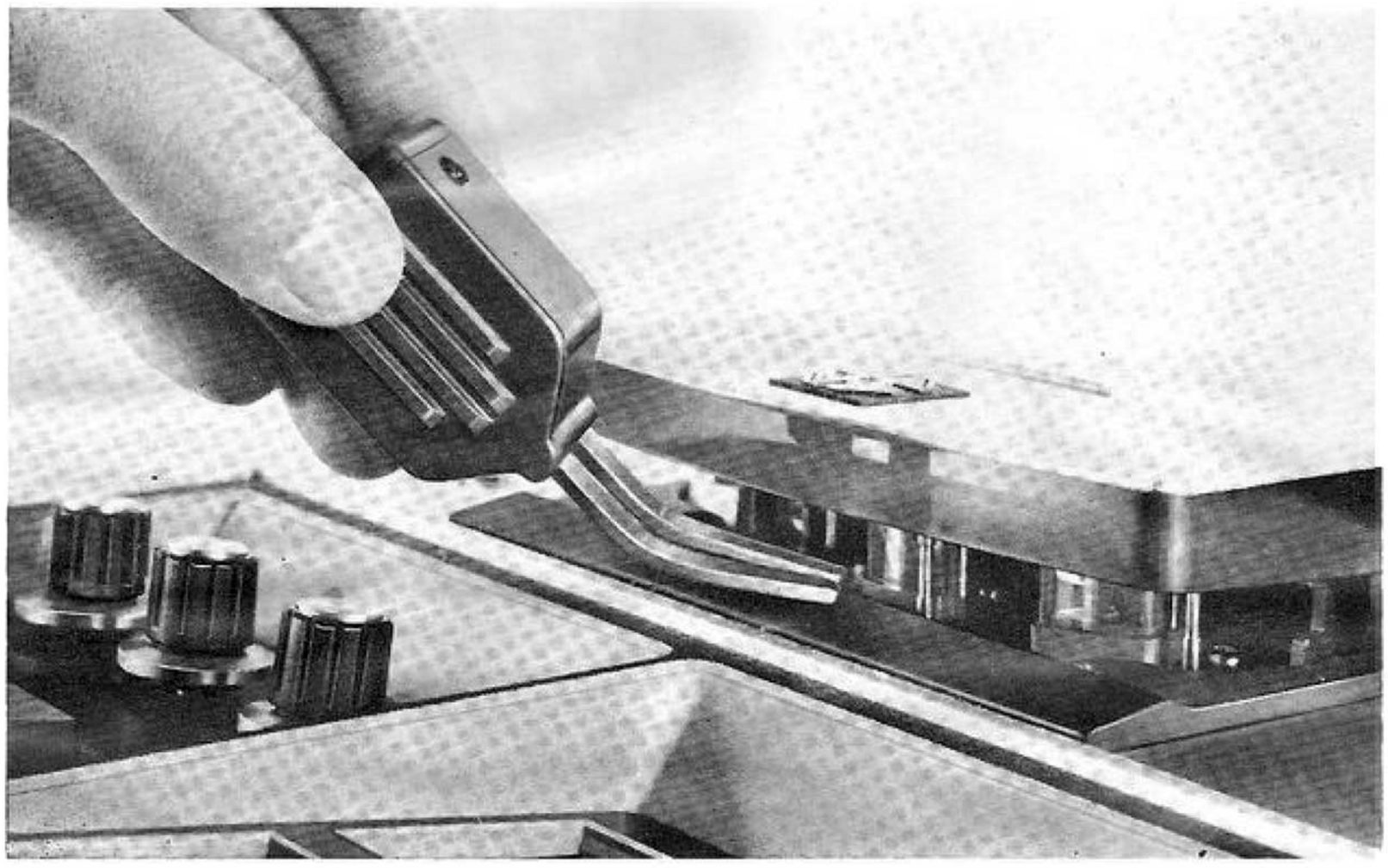

Fig. 27

12–HEAD DEMAGNETIZING

Normally the steel pole pieces which form a part of the Recording and Playback Heads become slightly magnetized. The effect of slight head magnetization is that it partially erases the tape, especially at high frequencies. Generally, this condition can be detected by the loss of high frequency response which cannot be corrected through head alignment. Severe magnetization (which may be caused by using magnetized tools in the vicinity of the heads) will result in noise or considerable distortion in addition to the loss of high frequency response. Although Model 1730-SS already has a built-in head demagnetizing circuit, it is recommended that head demagnetization be performed periodically. This can be accomplished by touching the head lightly with the demagnetizer and making several small circular motions over all heads surface areas as well as the head housing.

NOTE: To avoid scratching the head surface, we suggest that you cover both prongs of the head demagnetizer with a sort of masking tape.

13–TAPE ERASING

Any signals previously recorded on the tape will be automatically erased as a new recording is made. For erasing only, load tape and set recorder to recording mode. Model 1730-SS is equipped with separate 2-channel and full track erase heads. For full track erase, set STEREO TAPE SELECTOR to "4-CH" position and for 2-Channel erase, set to "2-CH" position. No plugs should be connected to the line input jacks or microphone jacks. For quick and complete erasing, the use of a Bulk Tape Eraser is recommended.

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14–TROUBLE SHOOTING CHART

The conditions listed below do not indicate mechanical failure of your unit. If your machine exhibits any of these conditions, check for trouble as indicated.

Loss of sensitivity and tone quality	• Dirty Erase Head This prevents pre-recorded material from being completely erased. • Dust adhering to Recording Head For head cleaning instructions, see "HEAD CLEANING" procedure. • Magnetized Head For demagnetizing instructions, see "HEAD DEMAGNETIZING" procedure. • AC Power Voltage lower than the Voltage to which your machine is adjusted.
Irregularity of tape transport	• Grime adhering to heads • Oil on capstan • Sticky or dirty tape surface • Bent Take-Up Reel
Will not record	• Check position of controls and plugs of both Model 1730-SS and external source

Notes:

1. Your machine requires constant voltage for optimum performance.
2. If the sound sources are so far away from the microphones that the recording level controls must be turned up to maximum, some hum or noise will inevitably be recorded. A test recording is recommended before attempting a final recording.
3. Should there be any problem with your machine, please take it to your nearest authorized agent or inquire at our Service Dept. in Tokyo, Japan.

15–LUBRICATION

Although the motor of Model 1730-SS has been sufficiently oiled for prolonged use, for maximum service and optimum performance, take your machine to your local AKAI Service Agent for occasional lubrication.

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III. ACCESSORIES

1–STANDARD ACCESSORIES

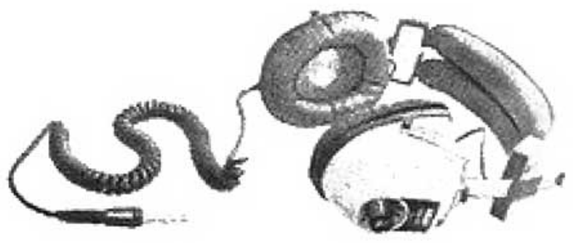
7″ 4-channel Stereo Demonstration Tape	1
7″ Empty Reel	1
Connection Cord (DR-111)	1
Spare Fuses	2
Operator's Manual	1

2–OPTIONAl ACCESSORIES

HEAD DEMAGNETIZER AH-6

HEAD CLEANING KIT HC-500

STEREO HEADPHONES

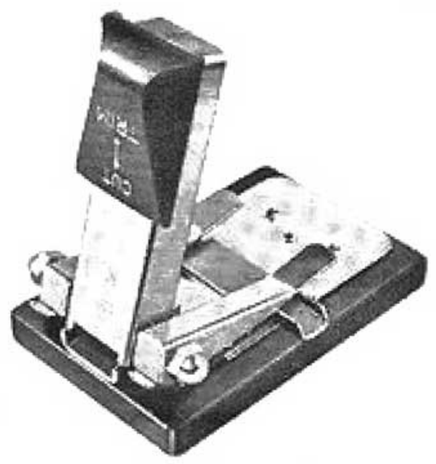


ASE-9S

ASE-20

ASE-22

TAPE SPLICER AS-3



DYNAMIC MICROPHONES

(Uni-directional) UM-101

DM-13

CONNECTION CORDS

D-100

RM-130

SC-180

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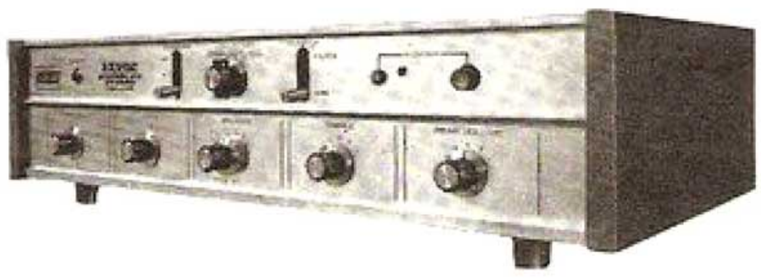
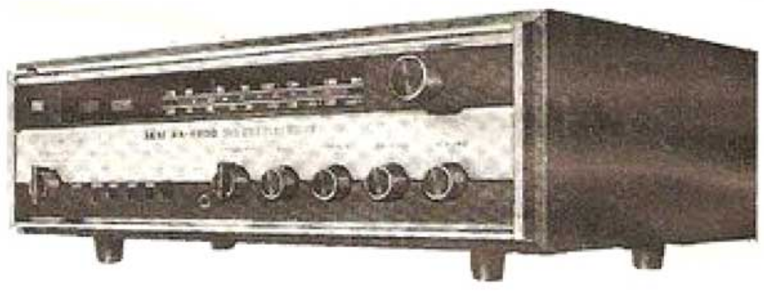
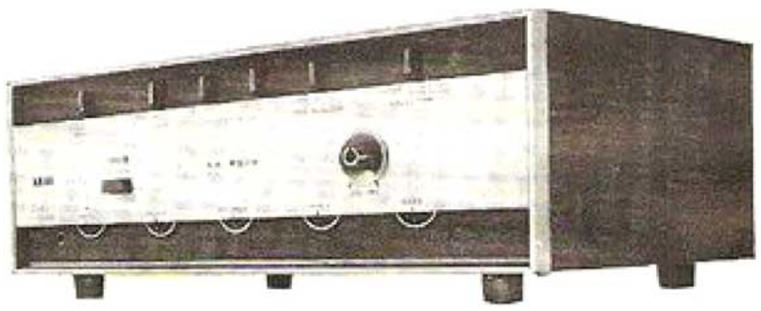


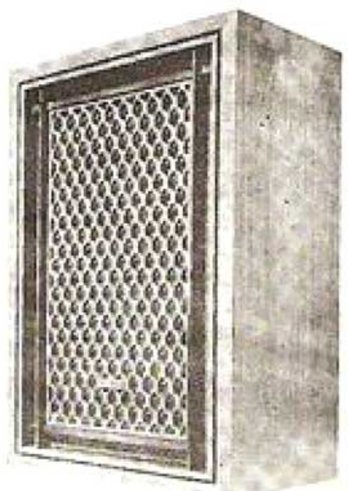
Model AA-6100
Surround Stereo Pre-Main Amplifier (4ch/2ch)



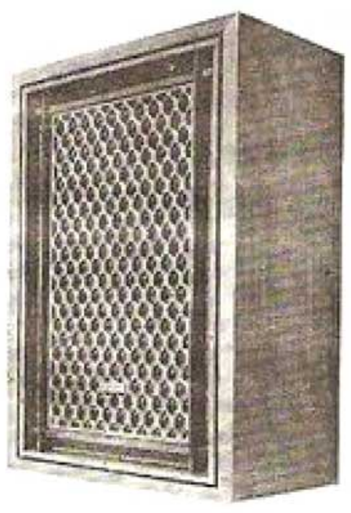
Model AA-6600
Solid State FM/AM Multiplex Stereo Tuner Amplifier



Model AA-6000
Solid State Stereo Pre-Main Amplifier



Model SW-155
4-Way 4-Speaker System



Model SW-125
3-Way 3-Speaker System

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MEMO

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AKAI

SCHEMATIC DIAGRAM
WARRANTY CARD

● Surround Stereo used with permission of Vangard Records.

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1730SS

F-L MIC
F-L LINE IN PUT
F DIN
F-R LINE IN PUT
F-R MIC
R-L MIC
R-L LINE IN PUT
R DIN
R-R LINE IN PUT
R-R MIC

REC. AMP.
TR101 2SC458LG(C)
TR102 2SC871(EF)
IC-101 LD-3141
REC. LEVEL
VR1 10K(A)
VR2 10K(A)

REC. AMP. LF-5023
VR3 10K(A)
VR4 10K(A)

LF-5025
STEREO SELECTOR SW601

P.B. AMP.
TR201 2SC458LG(C)
TR202 2SC453LG(C)
IC-201 LD-3141
T201 N19-5921S
VR201 10K(B)

P.B. AMP. LF-5022
IC-201 LD-3141

MONITOR SOURCE
TAPE
SW2
SW11
TAPE SPEED

LF-5024
TR501 2SC971(2.3) RED
TR502 RED 2SC971(2.3)

P19
J19
P HEAD
REC HEAD
E. HEAD

T1 LFT-1
POWER SW SW5
SW7 60Hz-50Hz
J20 FROM MECHA

LF-5026
TR401 2SD223(Y)

VOLUME VR5a 10K(A)
IC-301 STK-011(A)
MAIN AMP.
J11 F-L LINE OUT PUT
J12 F-R LINE OUT PUT
J13 F H-P
M1

VOLUME VR5b 10K(A)
MAIN AMP. LDA-544
J14 R-L LINE OUT PUT
J15 R-R LINE OUT PUT
J16 R H-P
M2

IC-301 STK-011
J17 LEFT EXT. SP
SP1 LEFT INT. SP
SW4 NORMAL / MUTE
J18 RIGH EXT. SP
SP2 RIGH INT. SP

AUTO MATIC
TENSION SW9
TAPE SPEED LOW / HIGH
FOR POWER SUPPLY

NOTE.
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W K
ALL CAPACITORS IN MFD. K 50WV
MFD/WV P=M-MFD.

1730D-SS dose not need MAIN AMPLIFIER CIRCUIT (Left a Right) and it's belonging circuit.

1730SS SCHEMATIC DIAGRAM
14204161

M.I.
2C

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